

# Sustainable Financing *of Protected Areas* *in Myanmar*



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# **Sustainable Financing *of* Protected Areas *in* Myanmar**



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European Union



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**CITATION:** L. Emerton, A. Kyin, R. Tizard. 2015. *Sustainable Financing of Protected Areas in Myanmar*. Yangon, Wildlife Conservation Society, p. 95.

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## List of Acronyms

CBM	Central Bank of Myanmar
CDM	Clean Development Mechanism
CESR	Corporate environmental and social responsibility
ECD	Environmental Conservation Department
FD	Forest Department
GEF	Global Environment Facility
MEB	Myanmar Economic Bank
MFAR	Ministry of Finance and Revenue
MMK	Myanmar Kyat (at the time of the report, USD 1 = MMK 1,025)
MNPED	Ministry of National Planning and Economic Development
MOECF	Ministry of Environmental Conservation and Forestry
MTE	Myanma Timber Enterprise
NWCD	Nature and Wildlife Conservation Division
OA	Other account
PA	Protected area
PES	Payments for ecosystem services
REDD	Reducing Emissions from Deforestation and Forest Degradation
SAO	State administrative organisation
SEE	State-owned economic enterprise
WCS	Wildlife Conservation Society

## Acknowledgements

Grateful acknowledgement is made of the extremely useful information, comments and ideas provided by Dr. Nyi Nyi Kyaw, Director General of the Forest Department and Director Win Naing Thaw of the Nature and Wildlife Conservation Division, MOECAAF, as well as colleagues from MFAR and MNPED, and especially for their generosity in sharing data.

This report was produced with the invaluable help of Professor Aung Kyin (former Rector of the University of Forestry, Yezin), without whom it would not have been possible to carry out the assignment.

Many thanks are also due to Robert Tizard (Technical Advisor to the WCS Myanmar Program) for his continuous guidance and support throughout the study, as well as to U Than Myint (Director of WCS Myanmar Program) and U Saw Htun (Deputy Director of WCS Myanmar Program) for their technical oversight and backup, to Dr Christopher Holmes (Director of WCS Southeast Asia Conservation Initiatives) and Jim Tolisano (Project Manager of WCS Business & Conservation Initiative) for their overall coordination, and to Ma Annie Chit (Program Manager, WCS Myanmar) for her logistical and administrative assistance.



## Introductory remark

The first part of the report makes a critical review of the problem based on objective realism. The second part proposes the theoretical knowledge and international experiences related to protected areas financing mechanisms.

All parties concerned, MOECA and users/beneficiaries of Forestry Ecosystem Services (Provisioning food; Provisioning raw materials; Provisioning Fresh Water; Provisioning medicinal resources; Regulating Local Climate; Regulating Carbon Sequestration; Regulating Extreme Events; Regulating Waste Water Treatment; Regulating Soil Erosion and Fertility; Regulating Pollination; Regulating Biological Control; Habitats for Species; Habitats for genetic diversity; Cultural Services- recreation, tourism, aesthetic appreciation and Spiritual experience) are earnestly suggested to make a concerted effort to preserve the biological diversity which is at present in a state of perpetual decline worldwide and the pace is increasing, the diversity of species is shrinking, the diversity of habitats is under threat and finally genetic diversity is decreasing.

In conclusion, allow me to cite the remarks of Edmund Burke (1729-1797), a British politician, an economist and a writer. He said “No men can act with effect who do not act in concert, no men can act in concert who do not act with confidence, no men can act in confidence who are not bound together with common options, common affections and common interests.”



**Professor Aung Kyin**

Retired Rector

University of Forestry, Yezin

National Consultant

## Foreword

Myanmar's Protected Area network holds some of our country's most beautiful and outstanding natural and cultural landscapes. This network is interwoven with Permanent Forest Estate and ensures that ecosystem services our people need to develop continue to function and benefit local livelihoods. Despite the importance of our protected area network, there are still many challenges to managing these areas effectively. In particular our protected area network has limited funding for supporting its effective management. Fortunately this is gradually changing over the past few years since the budgets for our protected areas have been increasing. There were increases in externally funded projects to support the management of these areas, though available fundings are still insufficient.

This important report highlights the need to increase the size and diversity of the financial support to our protected areas. Examples from neighboring countries have already shown there are a variety of new opportunities available to secure more funding for these vital areas. These can range from entry fees to payments for ecosystem services and contributors included are a broader range of partners including other government departments as well as the private sector. Myanmar needs to have a glance at those opportunities in order to make our protected areas and the people dependent on them prosper.

The report also highlights the need to enhance revenue retention and promote reinvestment in conservation. The management of our Permanent Forest Estate is being transformed; there are now new possibilities for revenue that do not come from the direct harvest of trees and forest products. REDD+ mechanisms and Payment for Ecosystem Services schemes could become important new sources of income. It will be important to reinvest a portion of this income back into conservation so as to make protected assets continue their essential services.

Once revenues have increased and are retained for conservation there is a clear need to enhance management effectiveness on the ground and deliver conservation outcomes for our country and the world.

There might be concerns that protected areas hamper opportunities for development and associated financial gain, this report clearly depicts such opportunities would not be lost. A well funded and effectively managed protected area network will provide new economic opportunities for the benefit of national and local economies and at the same time ensure the conservation of Myanmar's considerable wealth of biodiversity and natural resources.

To this end, improvement in planning for the management of protected area, thus, become a necessity. New funding opportunities have to be aligned with the conservation priorities of the country in order to effectively protect the natural resources bounded with the protective area network.

A handwritten signature in blue ink, consisting of stylized loops and a long horizontal stroke extending to the right.

Dr. Nyi Nyi Kyaw  
Director General  
Forest Department

## Executive summary to Part I

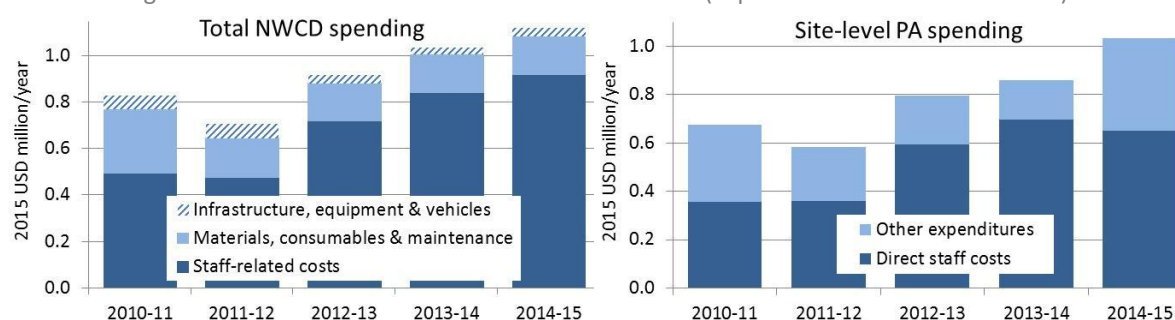
*This first section of the document reports on a strategic review carried out to support the development of a sustainable finance strategy for Myanmar's PA network. It assesses financing status, trends, constraints and opportunities. The aim is to identify needs, niches and entry points for strengthening PA financial sustainability, to be discussed with MOECF and other key stakeholders and prioritised according to their usefulness, relevance and strategic importance for follow-up.*

### PA funding status and trends

The Nature and Wildlife Conservation Division (NWCD) of the Forest Department (FD) of the Ministry of Environmental Conservation and Forestry (MOECF) is the government agency that is mandated to oversee PA management, and is allocated an earmarked budget to do so. This budget comes from Union funds.

In the financial year 2014/15, public funding worth MMK 1.06 billion (USD 1.03 million) was allocated to PAs. The share of NWCD budget spent on PAs has changed little over the last five years at between 80-90%, and MOECF allocations have for the most part remained steady at around 0.2% of total Union funding to line ministries and departments. Overall, the Union budget has been progressively rising, meaning that the absolute value of funding provided to NWCD and PAs has grown since 2010. The NWCD budget has increased by around a third in real terms, and PA allocations rose by more than a half.

Public funding to environment and nature conservation 2010-15 (expressed in constant 2015 USD)



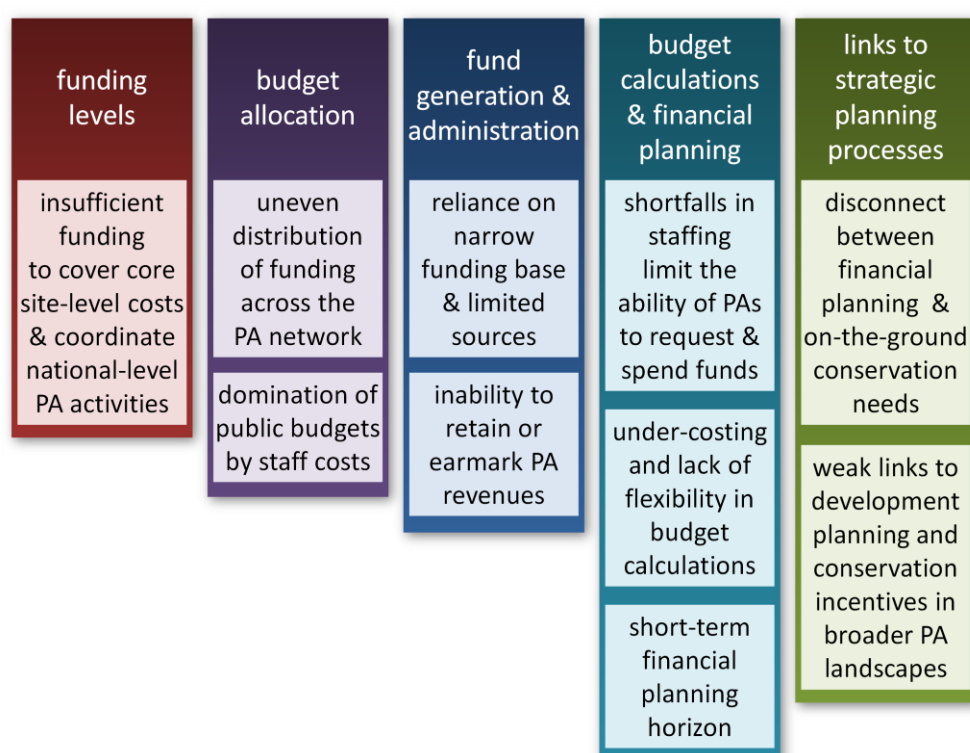
Absolute funding levels differ greatly between sites, with four PAs accounting for more than a half of total spending since 2010/11. There is also a wide variation in average annual spending per unit area, with figures ranging between USD 2 and USD 84,000 per km<sup>2</sup> and generally (although not exclusively) exhibiting an inverse relationship to PA size. Overall, direct staff costs (mainly salaries and associated remuneration and benefits) accounted for just under two thirds of PA budgets in 2014/15 and 80% of NWCD spending. Only twenty PAs (out of the 24 managed by NWCD and 36 in total in Myanmar) are actually staffed, or receive a government budget.

Sixteen sites, accounting for more than 20% of the national PA estate, receive no dedicated public funding at all.

More than 20 PAs currently benefit from external support via internationally-funded projects. These are spread across more than half of PAs and almost 90% of the national PA estate – an area which is one third greater than that under the active management of NWCD. Since 2010, something over thirty externally-funded projects are recorded as having been implemented which are directly concerned with species and habitat conservation in and around Myanmar's PAs. In total this funding was worth just under USD 4.5 million up to 2013/14. During the current financial year a massive rise in funding commitments was registered: PA projects worth an estimated USD 18.7 million were initiated. The private sector is also beginning to play a progressively greater (although as yet still relatively minor) role in PA funding.

Even though the law permits a variety of self-generated revenues to be earned from the use of PA lands and resources, in practice most PAs generate little or no income (less than USD 17,000 in 2013/14). There are currently no systems in place to would allow PA revenues and income to be retained and reinvested in biodiversity conservation. All earnings must be remitted to the Union Fund (i.e. the central treasury). Even though 'other accounts' which serve to absorb and manage all or a portion of own-source revenues are held by other line ministries and departments, no such arrangements exist for MOECAP. While the Environmental Conservation Law 2012 calls for an Environmental Management Fund to be established, and emerging PES, REDD+ and corporate contributions similarly require some form of extra-budgetary mechanism for administering and allocating PA funding, none of these arrangements have yet been operationalised in practice.

#### Key financial constraints to effective PA management



In total, over the last five years, an average of USD 1.9 million a year or USD 43/km<sup>2</sup> has been spent on PAs. Union funds contribute 41% of this figure (an average of USD 0.79 million a year) and externally-funded projects account for 59% (USD 1.1 million). When calculated on an area basis, levels of external funding and NWCD spending are similar (USD 25-26/km<sup>2</sup>/year each).

The review makes it clear that Myanmar's PAs face severe budget constraints. Many are unable to cover the costs of essential infrastructure, equipment, maintenance, running and operational activities – and many have no staff or funding at all. Although both public budget allocations and externally-funded projects and grants to PAs have shown a steady increase over the last five years, and look set to rise still further in the future, critical funding shortages still remain.

## Key PA financing needs & constraints

It is obvious that insufficient funding at both site and central levels poses a major barrier constraint to effective PA management. Financial sustainability is however only partly to do with the amount of funding available. Other particularly important constraints include that:

- Funding is distributed unevenly across the PA network. Three National Parks and one Wildlife Sanctuary consume more than half of the total annual public budget allocation to PAs. Meanwhile, around a third of PAs and 10% of the area under protection has no dedicated budget at all, from either government or external sources.
- Staff costs dominate public budgets. In 2014/15 staff-related costs accounted for almost two thirds of government spending on PAs, and some 80% of NWCD's budget. There is little surplus funding available to meet other essential equipment, maintenance, running and operational management needs. These costs are mainly left to be covered by externally-funded projects.
- PAs rely on a very narrow funding base and range of financial sources. PAs are financed from just two sources: the Union budget and external projects and grants. Up to the last financial year these contributed an average of 40% and 60% respectively of annual resource flows. Self-generated revenues are negligible. Only a limited range of PA funding sources are at present enabled by the law, which is largely restricted to 'traditional' fees and charges for tourism, land rental and fines.
- PAs revenues cannot be earmarked or retained. All PAs earnings must be remitted to the Union fund. They do not accrue as income to the PA, NWCD, FD or MOECA, and are not reinvested directly in conservation. Even if PA financing sources were to be expanded, this would not automatically translate into an improvement in the availability of funds, because earnings would continue to be channelled to the central treasury. This also means that there are weak incentives for PA managers to implement charge and fee systems, or to collect and remit their proceeds.
- Shortfalls in staffing limit the ability of PAs to request and spend funds. Despite the fact that salary costs dominate public spending, only around a half of PAs are actually staffed. Even those PAs that have staff face severe gaps in capacity: just 51% of approved positions have been filled, and the majority of PAs are operating below 50% capacity. Without sufficient human resources, it

is not possible to carry out essential PA management activities or to deliver on key conservation goals. Many PAs therefore face difficulties in spending their existing budget allocations – and for the most part would have only a very limited capacity to absorb and utilise additional funding, if it were to become available.

- Budget calculations lack flexibility, and key expenditure items are often under-costed. Standardised cost norms and inflators are the main tools used to calculate annual PA expenditure needs. Yet these rates tend to be unrealistically low, and cannot easily be adapted or modified in response to changes or differences in circumstances and conditions. The budget that a PA receives does not reflect its size, ease of management, level of threat or biodiversity significance. Thus, even where a budget is requested and allocated for certain activities or items, it may not be sufficient to cover the required expenditures.
- PAs operate according to a short-term financial planning horizon. PAs budgets are planned, disbursed and spent over a one-year time period. No forward estimates of budget needs, expenditure plans or funding availability are made, and no information on longer-term expenditure frameworks, spending ceilings or resource constraints are provided by MOECF, MFAR or MNPED. There is also no carry over in funding or expenditures permitted across financial years. PA managers therefore cannot know with certainty what their future funding security is likely to be. This short-term time horizon discourages a more strategic approach to budgeting and financial planning, which would take future needs into account.
- There is a disconnect between financial planning and on-the-ground conservation needs. The links between financial and conservation planning remain tenuous. There is limited communication between finance/ budget units and conservation managers. Most PAs do not integrate their financial and management planning processes, and therefore have little idea of what funding is required to deliver on core conservation activities and objectives. PAs do not follow output-based or activity-based approaches to budgeting, but rather prepare financial plans according to administrative expenditure categories. Spending tends to be focused on basic running costs and staffing, and activities that have the greatest importance in conservation terms are not necessarily accorded the highest priority when funds are allocated.
- There are weak links to development planning and conservation incentives in broader PA landscapes. Land and resource management regimes within and outside PAs are subject to separate institutional, planning and financial arrangements, and are often driven by different (and sometimes even conflicting) policy goals. NWCD's management and budgetary jurisdiction extends only within PA boundaries. Meanwhile, the Regional and State authorities and other line ministries that are mandated to manage and develop the broader PA landscape are not responsible for funding or implementing biodiversity conservation activities. As a consequence, few measures are in place which attempt to integrate conservation and development goals, offset the local opportunity costs of PAs, address the economic threats to biodiversity, promote sustainable livelihoods, or provide positive incentives and rewards for conservation.



## Opportunities & strategic entry points for enhancing PA financing

A number of recent shifts in Myanmar's institutional, policy, economic and investment context potentially lend support to efforts to enhance PA financial sustainability. Key strategic opportunities and entry points include:

Opportunities and strategic entry points for enhancing PA financial sustainability



- Existing and emerging legislation in Myanmar both demands and enables a variety of new environmental financing measures. These include market-based, user-pays and incentive mechanisms as well as the proposed Environmental Management Fund. Meanwhile, a precedent has been set of establishing 'other accounts' to absorb, retain and administer own-source revenues in other sectors.
- MOECAP is currently in the process of developing several new financial instruments and procedures which have relevance to, or could potentially generate funding for, PAs. These include a REDD+ financial management system and benefit-sharing mechanism, payments for ecosystem services, and an Environmental Management Fund.
- Fiscal decentralisation forms a cornerstone of the government's current public financial management reform process, and systems for a medium-term fiscal framework, improved cash and debt management systems are emerging. As well as opening the door to more streamlined and integrated procedures for PA financial planning, these developments may offer opportunities for NWCD to engage much more closely with Regional and State governments, and – potentially –

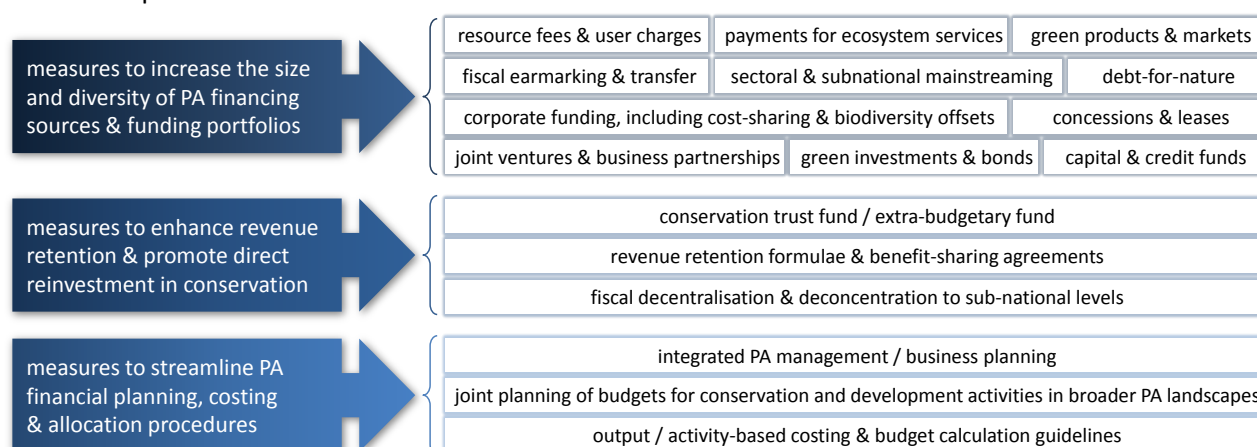
to develop a variety of cost-sharing, revenue-sharing and joint management arrangements with them.

- Myanmar's economy has opened up considerably to the private sector and outside investors over the last five years, and is in the process of negotiating the terms and safeguards under which these activities will take place. In addition to mandatory payments and fees, several developers have indicated their interest in contributing voluntary funding to environmental activities.
- A sizeable (and rapidly growing) body of externally-funded conservation projects has been initiated over recent years, and a significant number of international organisations and domestic NGOs are involved in PA management in Myanmar. These inflows of funding, in-kind contributions and technical assistance provide the opportunity to pilot, test and support the development of new funding mechanisms and innovative approaches to financial planning and administration .

## Potential areas for further scoping, elaboration & follow-up

Various policy instruments are available with which to address the financial constraints described above, which also respond to and build on the identified opportunities and strategic entry points. Three categories of closely linked and mutually interdependent PA sustainable financing measures and instruments are identified and presented for consideration by MOECAAF and possible follow-up.

PA sustainable financing measures and instruments with potential for further follow-up and development



Measures to increase the size and diversity of PA financing sources and funding portfolios are based on the introduction of additional income streams and revenue sources at national and/or site levels. A wide variety of mechanisms could in principle be used to generate funding for PAs, including market-based instruments (such as user fees, PES and green markets), enhanced allocations from the public budget (such as fiscal transfers, mainstreaming into sectoral and subnational and subnational budgets and debt-for-nature swaps), private sector engagement (such as donations, cost-sharing, biodiversity offsets, concessions and leases), and investment support (such as joint ventures, business partnerships, bonds, capital and credit funds). This list includes already-existing and emerging revenue sources which have the potential for further development and scaling-up (such as

user fees, PES, corporate funding and joint ventures), as well as mechanisms which have proved successful in other countries but have not yet been tried in Myanmar.

Measures to enhance revenue retention and promote direct reinvestment in conservation are primarily targeted towards ensuring that a greater share of income is returned to PAs as direct funding. The primary mechanism by which to accomplish this would be to establish some form of permanent fund that could attract, absorb, retain, administer and allocate conservation financing beyond (and in addition to) the routine annual public budget process. Many different design options exist, ranging from full government management through to an independent external structure, incorporating various combinations of sinking, revolving and endowment fund aspects, and serving to channel funds to a variety of potential targets and beneficiaries. The proposed Environmental Management Fund and associated PES/REDD+ payment systems may offer concrete opportunities. It will also be necessary to identify appropriate revenue retention and benefit-sharing formulae, and investigate how improved revenue retention can be best accomplished in the light of the bigger-picture fiscal decentralisation and deconcentration processes that are currently ongoing in Myanmar.

Measures to streamline PA financial planning, costing and allocation procedures deal with the need to ensure that improvements in the financial status of PAs enhance on-the-ground management effectiveness and delivery of conservation outcomes. The development of business plans as an integral component of PA management plans aims to match funding to conservation priorities, while the harmonisation of budgets for conservation and development activities in the broader PA landscape is seen as an opportunity to address the need to cover the opportunity costs of PAs and set in place effective conservation incentives and reward systems for local land and resource users. Meanwhile, output-based or activity-based costing is a way of ensuring that PA budgets reflect conservation needs, and are sufficient to cover the expenditures that are required to deliver on them.

## Executive summary to Part II

*This second section of the document reports on a strategic review carried out to support the development of a sustainable finance strategy for Myanmar's PA network. It builds on the findings of the first section of the document, where we identified needs, niches and entry points for strengthening PA financial sustainability. The report elaborates concrete options for the development of the selected measures, specifies enabling conditions and requirements for their implementation, and compiles a roadmap of suggested actions for strengthening the financial sustainability of the PA system.*

### Relevance and potential of different PA revenue and income sources

A wide range of innovative mechanisms for financing PAs have emerged over recent decades, and are now commonly used in other parts of the world. These aim to supplement conventional funding sources (such as government budgets and international grants) and diversify non-budget income streams, so as to make PAs more financially independent, stable and secure over the long-term.

Eight PA revenue and income sources are considered to have high or medium potential for further development in Myanmar: direct user fees and service charges; voluntary levies and surcharges; payments for ecosystem services; cross-sectoral fiscal transfers; and sub-national fiscal transfers; corporate sponsorship and advertising; biodiversity offsets; leases, concessions and joint ventures.

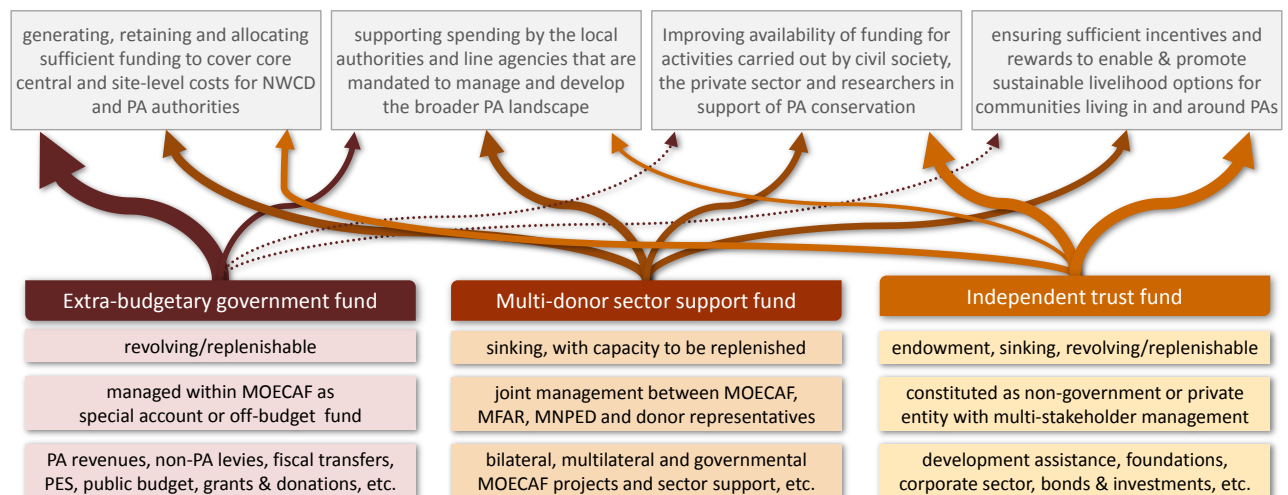
direct user fees & service charges	<i>charges paid for extractive and non-extractive uses of PA land, resources and facilities</i>
levies & surcharges on other products	<i>percentage or flat fee levied on nature-related goods &amp; services or to capture consumers' interest in conservation</i>
payments for ecosystem services	<i>cash or in-kind fees collected from beneficiaries of ecosystem services, channeled as rewards or compensation to land &amp; resource managers</i>
cross-sectoral fiscal earmarking & transfers	<i>allocation of all or portion of public revenues from taxes and other charges generated by other sectors</i>
sub-national ecological-fiscal transfers & retention	<i>redistribution of public revenues from central to subnational level based on provision of public benefits through PA system</i>
corporate sponsorship & advertising	<i>cash or in-kind (technical advice, training, professional services, equipment, infrastructure, etc.) contributions to PAs from companies</i>
biodiversity offsets	<i>support to species &amp; habitat conservation or restoration to balance or compensate for unavoidable biodiversity damages caused elsewhere</i>
leases, concessions & joint ventures	<i>devolution of management of particular PA functions, services or facilities to external agencies with payment and/or profit share.</i>

## Possible scope, role and architecture of a long-term PA fund

Over the last two decades or so, PA funds have been established in many countries and sites across the world. Developing a long-term fund (or funds) in Myanmar could assist greatly addressing the barriers to PA financial sustainability. The main purpose would be to attract and retain a more diversified funding portfolio, thereby ensuring a secure, stable and targeted flow of financial resources that would supplement existing Union budget allocations and externally-supported projects. It could provide a mechanism to facilitate flexible, coordinated and long-term approaches to planning, promote greater stakeholder participation, and ensure that the full range of PA conservation costs and cost-bearers are compensated.

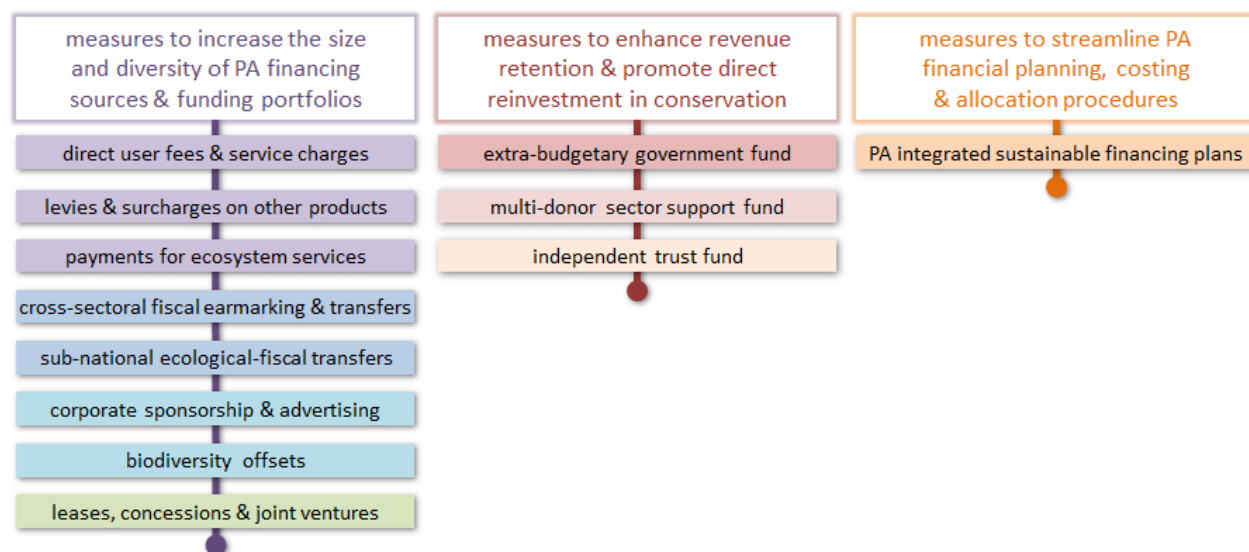
Three PA fund options are identified as having potential for further development in Myanmar, which could supplement, complement and support the government budget (the primary long-term PA funding mechanism):

- Extra-budgetary government fund to earmark, retain and administer fiscal revenues and other government and external contributions to cover NWCD's core costs of maintaining PAs as functioning and viable institutions;
- Multi-donor sector support fund to coordinate externally-funded grant-based projects and donor support to the PA sector in Myanmar, and ensure that projects are planned, funded and implemented according to the highest international and national conservation priorities; and
- Independent trust fund to make available funding to support biodiversity conservation in and around PAs to activities and groups which are additional and complementary to MOECAP's spending and mandate.



*the weight of line represents the likely priority accorded to different funding targets and beneficiaries*

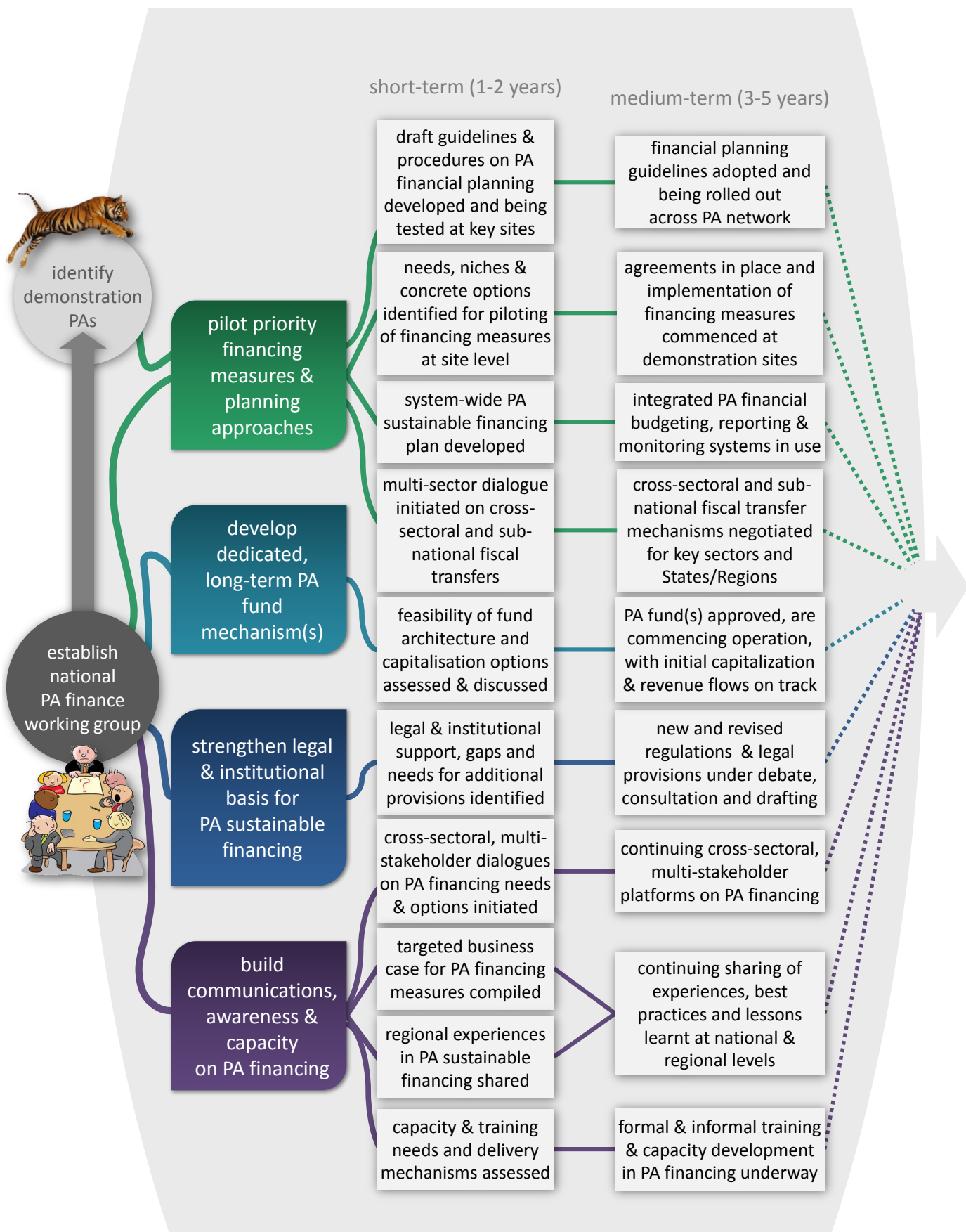
## Enabling conditions and next steps for taking PA sustainable financing forward



In total, twelve priority PA financing measures are identified which can serve to increase the size and diversity of PA financing sources and funding portfolios, enhance revenue retention and promote direct reinvestment in conservation, and streamline PA financial planning, costing and allocation procedures in Myanmar.

A phased approach is proposed to taking PA sustainable financing forward. Over the short-term, it is recommended that actions should focus on building the information, awareness and support base, and commencing the strategic planning, design and demonstration activities, that are required to initiate the identified priority financing mechanisms. This will lay the foundation for a medium-term set of actions intended to operationalise, institutionalise and scale-up new PA financing measures.

It is suggested that the sustainable financing measures are initiated at both site and national levels simultaneously. The aim is to set in place two strands of mutually reinforcing actions which will together serve to demonstrate, test and embed new approaches to PA financial planning, fund generation and administration.







## **PART I**

# **Assessment of financing status, trends, constraints & opportunities**

# 1 Introduction: background to the assessment

## Objectives, scope and content

This document has been produced for the Wildlife Conservation Society (WCS) as part of a strategic review of protected area (PA) financing status, needs and options in Myanmar. The overall objective is to support the development of a sustainable finance strategy for the national PA network. It is also envisaged that the findings of the review will serve to guide the work of a National Sustainable Finance Working Group, to be established by the Forest Department (FD) of the Ministry of Environmental Conservation and Forests (MOECAF) and other government agencies during the course of the GEF-funded Strengthening Sustainability of Protected Area Management in Myanmar project.

This is the first of three deliverable outputs. It reports on PA financing status, trends, constraints and opportunities. The second output is a presentation on the study findings. Following on from this, a third document will elaborate concrete options and instruments for the future sustainable financing of the PA network. The current report contains four chapters:

- Chapter 1 lays out the objectives and scope of the report, and provides a working definition of PA financial sustainability;
- Chapter 2 looks at institutional, policy, legal and administrative aspects of PA financing. It describes the procedures and processes for requesting, allocating and administering public funds, and summarises the main stakeholders and decision-making processes that determine budget decisions;
- Chapter 3 assesses past and current PA expenditures, revenues and funding sources in quantitative terms, makes a qualitative assessment of likely future financial flows, and provides a rough assessment of possible PA funding gaps under different management scenarios; and
- Chapter 4 draws conclusions about the key funding needs and financial constraints which serve as barriers to effective PA management, and identifies opportunities, strategic entry points and potential mechanisms for strengthening PA financial sustainability, to be discussed with MOECAF and other key stakeholders, and then further elaborated in the second deliverable output of the assignment.

The report is based on meetings and consultations held January and February 2015 in Nay Pyi Taw and Yangon. These involved government staff from MOECAF and other ministries, as well as representatives from a variety of national and international NGOs working in biodiversity conservation and protected areas, bilateral and multilateral development agencies, research and academic organisations. An extensive literature review was also carried out, and relevant data

and statistics on public budgets and expenditures, international projects and other funding flows to PAs in Myanmar were collated and analysed.

## How PA financial sustainability is defined

The assignment responds to the clear and urgent need to address the funding shortages that have long been observed in relation to Myanmar's PAs, and which serve as a major barrier to biodiversity conservation. The terms of reference for the study note that current budgets are "still far short of what is required, and without sufficient funding Myanmar's protected area network will not be able to effectively protect the globally important resources it was established to conserve". The study intends to provide "one step towards ensuring that the protected area network in Myanmar will have a robust sustainable financing strategy to ensure that these resources survive for future generations".

Funding challenges are mentioned repeatedly in the various policies, strategies and plans that govern biodiversity and PAs in Myanmar. Inadequate budgetary resources are cited as a key constraint to conservation in both the 1995 Forest Policy and the 2009 National Sustainable Development Strategy (NCEA 2009). In a similar vein, the Biodiversity Strategy and Action Plan for 2012-20 suggests that low investment is one of the major underlying causes of ineffective biodiversity conservation in the country (MOECAP 2011), a point that is also given emphasis in the 2013 REDD+ Readiness Roadmap (UN-REDD 2013). The 2013 Biodiversity Conservation Investment Vision enumerates a list of PA funding constraints, and recommends that new mechanisms need to be developed to increase environmental financing (WCS 2013). Most recently, the summary on nature and biodiversity conservation in Myanmar prepared last year by the Nature and Wildlife Conservation Division (NWCD) states that "limited funding for protected area management and biodiversity is the major constraint" (NWCD 2014).

However, while a great deal of attention has been paid to the amount of funds that is being spent on PAs, much less consideration has been given to the host of other financial conditions and forces that influence conservation effectiveness. It is important to note at the start of this report that the current assignment takes a far broader view of PA financial sustainability than funding alone. Focusing only on the quantity of money being spent on PAs runs the risk of failing to identify (and, ultimately, neglecting to address) some of the most binding financial constraints and pervasive barriers to biodiversity conservation and PA management effectiveness. Thus, for the purposes of this assignment, PA financial sustainability is understood as:

*"the ability to secure sufficient, stable and long-term financial resources, and to allocate them in a timely manner and in an appropriate form, to cover the full costs of protected areas and to ensure that protected areas are managed effectively and efficiently with respect to conservation and other objectives". (Emerton et al. 2005)*

Figure 1: Key conditions for PA financial sustainability



In short, financial sustainability is only seen to be possible if there are strong and effective institutions for PA management, and a solid framework for planning and implementing biodiversity conservation within which financial measures are embedded. The key point is that there are many ways in which financial conditions and issues act as a constraint to PA management, which extend beyond a simple lack of funds. The amount of budget available is undoubtedly an important and necessary condition for PAs in Myanmar to be managed effectively, but by itself it is unlikely to be sufficient.

Briefly, there are seven particularly important financial conditions that are required for effective PA management, and which form a part of the financial sustainability issues investigated in this report (Figure 1):

- **Funding:** *Securing an adequate amount of money to cover PA costs.* This is of course absolutely vital. Unless a PA has access to sufficient financial resources, it will be impossible to manage it effectively or to undertake the range and level of actions that are required to conserve biodiversity;
- **Diversity:** *Building a broad funding portfolio which spreads risk.* Relying on just one or two source of funds (such as the public budget, foreign funding or tourism income, for example) is unlikely to generate sufficient funds to meet requirements. It is also very risky. Building a portfolio that draws on several different sources means that if one diminishes or fails, there is other funding available to plug this gap;
- **Security:** *Ensuring stable and secure budgets for the future.* It is necessary to ensure that funding is guaranteed over a longer time frame than the annual government budget cycle or the typical project period of three to five years. It is difficult to plan for long-term biodiversity conservation without knowing how much funding will be available in the future;
- **Links to conservation:** *Ensuring that PA management needs and biodiversity conservation goals drive fund-raising, financial allocation and spending.* Sustainable financing is not an end in itself, it is a means to an end: more effective biodiversity conservation. Funding is unlikely to be fit to purpose if is not directed towards the goals and activities which are of the highest priority for biodiversity conservation, and which have – ideally – been articulated in the PA management plan. There is often little connection between the budget requests or funding proposals that are prepared, and the actual needs to fund on-the-ground biodiversity conservation activities in the PA;
- **Administration:** *Improving cost-effectiveness, allocation and spending.* Even when funds are generated, they are not always spent effectively. Reducing costs, improving cost-

effectiveness and targeting expenditures wisely are also key components of sustainable financing;

- **Planning:** *Taking a strategic approach to identifying funding needs and options.* Just as managers in business are expected to understand financial issues, so PA managers are increasingly required to develop the same types of competencies. They need to go beyond traditional budgeting and cost accounting. This involves a strategic process which identifies the financial constraints to effective PA management and how to overcome them, plans how funding will be sourced, administered and used, and specifies a series of financial targets and milestones in relation to biodiversity conservation; and
- **Enabling conditions:** *Strengthening the broader economic and legal context.* A wide range of external financial, economic and legal factors have the potential to influence PA management effectiveness. These range from subsidies, price distortions and market failures in other parts of the economy which prejudice against biodiversity, through weak laws which do not support more sustainable financing, to a low awareness of the economic value of protected areas among economic and development decision-makers. All of these broader conditions influence PA funding, and the financial and economic incentives that people have to conserve biodiversity.

Another important issue is that achieving financial sustainability is a far more complex challenge than just covering the direct costs of PA management (such as equipment, staffing, infrastructure, patrolling, maintenance, scientific research and surveys). This is of course a very important goal – and is most definitely required for effective biodiversity conservation. But assessments of PA costs and financing needs also consider what economists term “opportunity costs”: the economic activities that are diminished or foregone due to the existence of PAs.

Unlike direct costs (which are borne by the agency responsible for managing the PA), opportunity costs are typically incurred by the people who use the lands and resources in and around PAs. In most cases adjacent residents and local authorities both expect and demand that sufficient development benefits are seen to accrue to them from the PA that lies on their doorstep. If this is not the case, they are likely to be unwilling to support biodiversity conservation, and may continue to degrade and encroach on PAs. While opportunity costs may not always require funding in terms of money, they remain a cost that must be budgeted for and covered.

It should be noted that this assignment is concerned primarily with the first six bullet points listed above. Its main focus is on improving the financial sustainability of the government institutions that are mandated to manage National Parks, Wildlife and Bird Sanctuaries PAs in Myanmar, in other words site-level PA authorities and the NWCD, FD and MOECAP.

## 2 Procedures and provisions for PA financing: institutional, legal & administrative aspects

*Before assessing how much money is actually being spent on managing PAs, it is first of all necessary to understand the ways in which government budgets are formulated, requested and allocated in Myanmar, how funds are administered, and which financial sources are available to PAs. This chapter looks at institutional, policy, legal and administrative aspects of PA financing. The main findings are:*

- Only a small range of PA funding sources are at present enabled by law.*
- As a result, PAs depend wholly on the Union budget for their core funding, supplemented by externally-funded projects.*
- Even though the law permits PAs to earn a limited variety of revenues, there are currently no systems in place that would allow this income to be retained and reinvested in biodiversity conservation; all earnings must be remitted to the Union Fund.*
- Although ‘other accounts’ which serve to absorb and manage all or a portion of own-source revenues (and are excluded from routine fiscal reports) are held by other line ministries and departments, no such arrangements exist for MOECFA.*
- While the Environmental Conservation Law 2012 calls for an Environmental Management Fund to be established, and emerging PES, REDD+ and private investments similarly require some form of extra-budgetary mechanism for administering and allocating PA funding, none of these arrangements have yet been operationalised in practice.*

### How budgets are requested and approved

The Nature and Wildlife Conservation Division (NWCD) of the Forest Department (FD) of the Ministry of Environmental Conservation and Forestry (MOECFA) is the government agency that is mandated to oversee PA management, and is directly allocated an earmarked budget to do so. This comes from Union funds (no PAs are currently funded via State or Regional budgets or managed by State or Regional governments). As of the financial year 2014/15, 20 out of the 24 PAs managed by NWCD received a budget<sup>1</sup>; the remaining four<sup>2</sup> received no public funding (although one of these, Taninthayi Nature Reserve, is funded from private sector sources – as described further below). In addition, 11 PAs<sup>3</sup> fall under the jurisdiction of Township Forest Departments, but receive no dedicated budget allocation for conservation activities. One of

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<sup>1</sup> Chatthin, Htamanthi, Hukaung Valley, Indawgyi, Inlay Wetland, Kyaikhtyioe, Lawkananda, Mainmahla Kyun, Minzontaung, Moyungyi Wetland, Panlaung Pyadalin Cave, Pidaung, Shwe U Daung and Shwesettaw Wildlife Sanctuaries; Alaungdaw Kathapa, Hkakaborazi, Lampi Island Marine, Natmataung, and Popa Mountain National Parks; and Rakhine Yoma Elephant Range.

<sup>2</sup> Hponkanrazi, Bumhpabum and Kyaukpantaung Wildlife Sanctuaries and Taninthayi Nature Reserve.

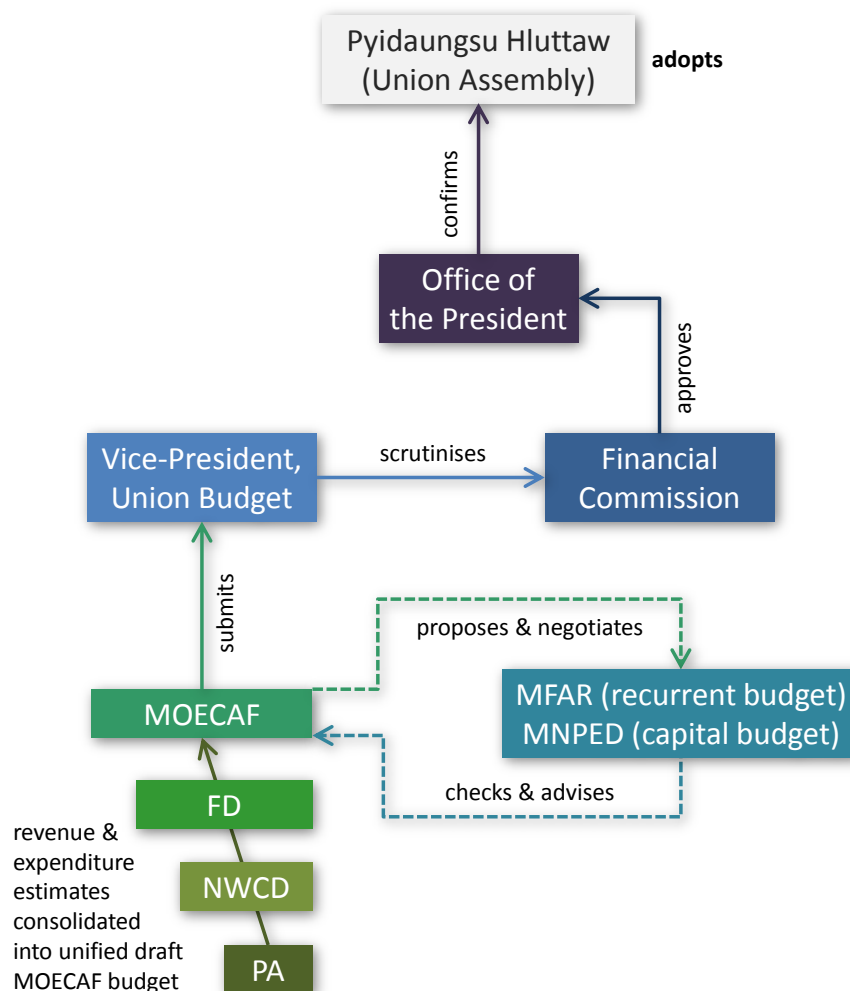
<sup>3</sup> Kahilu, Kelatha, Minwuntaung, Moscos Kyun, Mulayit and Thamihla Kyun Wildlife Sanctuaries; Pyin Oo Lwin, Taunggyi and Wetthikan Bird Sanctuaries; Loimwe and Parsar Protected Areas.



these, Thamihla Kyun Wildlife Sanctuary, also receives some support from the Department of Fisheries.

The 2008 Constitution establishes the basic terms and conditions under which public funds are managed and administered in Myanmar. There is currently little additional guidance and no other standalone regulations on public financial management, meaning that the actual implementation of the budget process is largely guided by prior practice (MFAR 2013; World Bank 2013). MOECAF observes the same systems and procedures as any other line ministry when requesting and receiving Union funds<sup>4</sup>. The budget process follows a fixed annual calendar and decision-making hierarchy, according to clear and generally well-understood procedures, roles and responsibilities (Figure 2, Figure 3).

Figure 2: Chain of public budget submission and approval



<sup>4</sup> Beginning 2012/13, States and Regions have had separate budgets from the Union (although significant transfers continue to be made from the latter to the former). The procedures for preparing, requesting and approving the allocation of funds from State/Region budgets follows a parallel process to that described for the Union budget, with requests being transmitted through the Vice President for the State-Region Budget to the Financial Commission, and then onwards via the Prime Minister of the relevant State/Region to the State or Region Hluttaw for final confirmation and announcement.

The process commences in August, when MOECAP receives budget instructions, estimate forms and calendars from MFAR. Projections of the following year's revenues and expenditures are compiled for each protected area, and checked (and revised as necessary) by the budget/finance units of NWCD and FD. PA financial estimates are combined and progressively merged upwards into the NWCD and then FD budgets, and, ultimately, become a component of the consolidated draft budget for MOECAP as a whole. Over the course of October and November MOECAP's budget proposal is checked, negotiated and adjusted as appropriate at the ministerial level, under the advice of the Ministry of Finance and Revenue (MFAR) and the Ministry of National Planning and Economic Development (MNPED)<sup>5</sup>.

In November, MOECAP's draft budget is submitted for scrutiny to the Vice President who is mandated to deal with the Union Budget, along with the budgets of all the other units which are funded from Union sources. It then passes to the Financial Commission for review and approval. The Financial Commission is chaired by the President with membership of the Minister of Finance and Revenue and States/Regions. In December, the recommended Union budget is presented to the Cabinet via the Office of the President. Parliamentary debate (and usually some modification) takes place between January and March, before the consolidated budget is eventually adopted by the Union Assembly by March 31 (the last day of the financial year). The Union Budget Bill is then signed by the President and becomes law. The Union Budget Law (issued annually) lays out the receipt and expenditures, reserve funds and loan procedures for Union Ministries and Departments, State Administrative Organisations, State-owned Economic Organizations and the various other agencies and committees that will receive Union funds during that year.

Figure 3: Annual calendar for public budget preparation



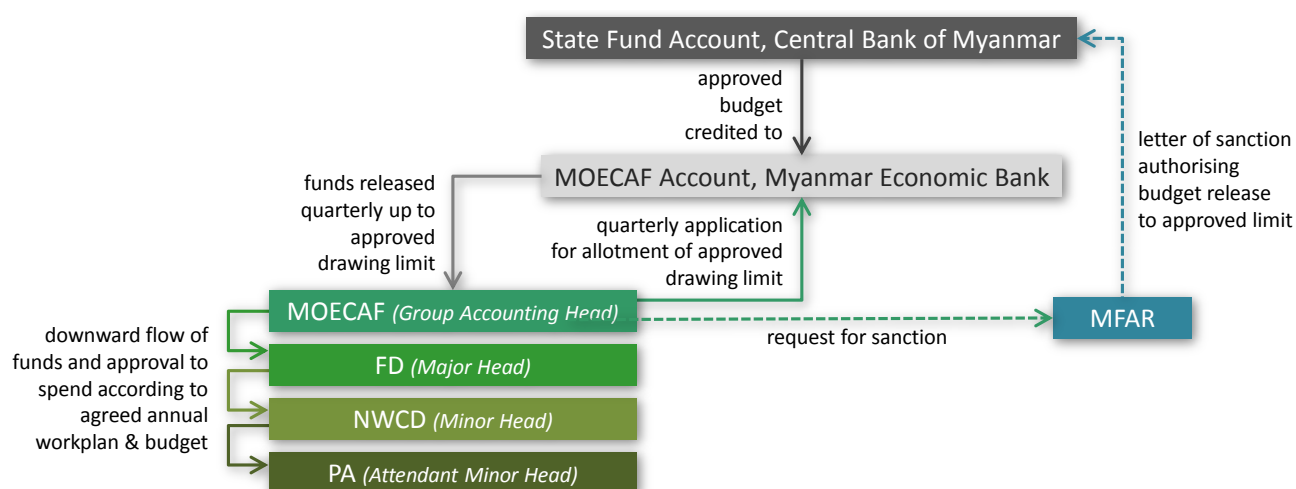
<sup>5</sup> Recurrent and capital budgets are determined separately: the Budget Department of MFAR is responsible for reviewing, collating and consolidating the recurrent budget, while MNPED is responsible for the capital budget and for reviewing all investment proposals prior to their entry into the budget.

## How funds are allocated and transferred

Once the Union budget has been adopted, the approved budget allocation is assigned to MOECAF. The Ministry is the budget holder or recipient of funds from the Union budget (the Group Accounting Head, in budgetary terminology<sup>6</sup>) and is ultimately accountable for reporting on spending. Within MOECAF, funds cascade downwards via an internal allocation process, through the FD and NWCD, to PAs (

Figure 4). The flow of funds from MFAR to MOECAF is managed through two intermediaries: the Central Bank of Myanmar (CBM) that operates only at the central level, and the Myanmar Economic Bank (MEB) which provides a retail banking service to government bodies (UNICEF 2014b). Union funds are accessed through the State Fund Account at the CBM, from where they are allocated to each budget holder (including MOECAF) and credited to an account held at the MEB after the submission of a letter of sanction from MFAR. Drawing limits are specified which give rights to spend up to a certain predetermined level. Applications are made quarterly for an allotment of the total annual sanction.

Figure 4: Request and approval process for budget allocation and transfer



For centralised departments and deconcentrated allocations, sanctions and drawing limits are authorised and made internally, and are provided directly from the ministry budget. This is, for example, how PA budgets are currently managed. A slightly different system operates for decentralised units of government. Here, funds for sub-national activities are provided to State and Regional governments, which then allocate sanctions to the Regional and Township offices of the ministries according to the regional budget (UNICEF 2014b). For example, State/Region Forest Departments operate with direct accountability to MOECAF but in consultation with the State/Region Minister of Forestry and Mines. A similar system is in the process of being put in place for Environmental Conservation Departments (ECDs): MOECAF opened five subnational

<sup>6</sup> In budgetary organizational terminology, MOECAF is the Group Accounting Head. Departments (such as FD) are Major Heads, Divisions (such as NWCD) are Minor Heads, and further sub-divisions (such as PAs) are Attendant Minor Heads.

ECDs in 2013/14, with another five to be opened this year and the remaining four regional offices planned for 2016/17, followed by 67 district-level ECD offices and 336 township offices due to be established from 2016 onwards (Thet Aung Lynn and Oye 2014).

Once budget allocations are decided and sanctions are issued they are fairly immutable, although it is reported that budget holders have considerable flexibility in moving money around at the minor head (i.e. division) and subhead (i.e. primary expenditure classification) level, and appear to exercise this discretion (World Bank 2013). In relation to PAs, this might for instance enable the reallocation of resources between different on-the-ground conservation activities but not, for example, between staffing, equipment and utilities. It would also make it difficult to reassign resources that have been earmarked for other FD divisions or MOECAF departments.

Any changes over and above the approved budget limit (or between major heads and primary categories of expenditure) can only be requested once during the year. A budget readjustment is carried out towards the end of September, when 'supplemental' funds may be requested to cover expenditure overruns and revenue shortfalls. As is the case for the main annual budgeting process, PA supplemental budget requests must follow an upward chain of consolidation through NWCD, FD and MOECAF. The supplemental Union budget estimate (for the current year) is presented to parliament for approval shortly before the main budget (for the following year). Once approved, the revised budget allocations are signed off by the President and published as the Supplementary Appropriation Law of the Union for that year.

## How PA budgets are devised

As is the case with other line ministries and departments, MOECAF devises its own expenditure proposal and budget ceiling (UNICEF 2014a). The budgetary requirements of each component unit (including PAs) are nested within the overall ministerial figures. Two budgets are prepared: the capital budget (overseen by MNPED) and the recurrent budget (overseen by MFAR). The capital budget covers three main categories (project investment (construction), works investment (machinery and equipment), and office equipment), while there are seven classes of recurrent expenditures (remuneration, travel allowances, goods and services, maintenance, transfer payments, entertainment expenses and reserve fund).

In theory, budgeting and development planning processes are closely intertwined. The government works on a cycle of annual plans, short-term five-year plans (the current planning period runs from 2011/12 to 2015/16) and a long-term National Comprehensive Development Plan (2011-2031). The National Planning Law, which is presented to Parliament a few weeks before the budget, sets out the year's targets for the economy as a whole and by sector, outlines each government agency's policies and activities, and presents annual project proposals and investment estimates for the state-owned sector.

Thus each PA's annual budget submission reflects its stated workplan for that year, which should in turn be guided by the targets set out in the PA management plan (if it exists) and other, higher-level, plans for the forest and environment sector as well as the national development plan for Myanmar. However, although a variety of short, medium and long-term strategies and plans have been developed which touch on PAs and biodiversity conservation (for example the National Forest Masterplan 2001/02-2030/31, National Sustainable Development Strategy 2009, National Biodiversity Strategy and Action Plan 2011-30, 2014 Biodiversity Conservation Investment Vision), these have only a limited bearing on the annual workplans and budget proposals which are prepared for each PA. In practice, the links between strategic planning and budget preparation however remain fairly weak (World Bank 2013; UNICEF 2014b). For the most part, budgets are organised along administrative lines, rather than according to programmes, activities, or outputs. (World Bank 2013).

In reality, it is staff numbers that tend to exert the greatest influence over PA workplans and budgets (and, as discussed further in Chapter 3, account for by far the largest share of expenditures). The level and scope of site-level activities that can actually be carried out in any given year depends largely on the workforce that is available. However, current policy means that, overall, the public sector is operating with only around two thirds of its full complement of staff. For PAs, just 51% of approved positions are filled. This severely constrains PAs' ability to mobilise and move funds. Even if additional funds were available, it is uncertain whether PA workplans could be expanded without increasing the number of staff positions. For this reason, it is common for NWCD to reduce the annual workplans and budget requests that are submitted by PAs before onward consolidation into the MOECAF annual budget request, due to the fear that it will not be possible for the specified funds to be fully absorbed or spent over the course of the year. Quarterly recurrent spending targets place an additional (downwards) pressure on PA budgets: there is a risk that if MOECAF does not meet the expenditure targets it has set itself, then the unused balance will be removed and returned to the Union budget. In the worst case, future budget requests may be cut. A fairly conservative stance thus tends to be taken when PA workplans and budgets are formulated.

Standardised formulae are used to estimate staff-related expenditure needs, and are also applied to some other core conservation activities. Some of these cost norms are common to all government agencies (for example daily subsistence allowances for public servants), while others (such unit costs for tree planting, boundary demarcation, etc.) are formulated by the finance sections of NWCD, FD or MOECAF, under the supervision of MFAR. Most are only revised at very infrequent intervals (if at all), meaning that they are commonly outdated and often unrealistically low. This tendency towards under-costing is compounded by the current lack of medium-term expenditure planning for the public budget. Neither MFAR nor MNPED make forward estimates of key aggregates and indicators beyond the next fiscal year, meaning that little guidance is available to MOECAF as to what can be expected in terms of future expenditure ceilings, resource constraints, or expected inflation (Asia Foundation 2014). The costs assigned to administrative units are therefore usually constructed by inflating the previous year's

allocation by the expected nominal growth in GDP that is laid out in the national plan (World Bank 2013; UNICEF 2014a,b).

## How PA revenues are generated and administered

Unusually (as compared to other countries), neither the Protection of Wildlife and Conservation of Natural Areas Law 1994 nor the 2002 Rules Relating to the Protection of Wildlife and Conservation of Natural Areas make any reference to the financial arrangements under which PAs are to be managed, or provide any list of permissible funding sources. They do, however, give details about the revenues that can be generated from PA lands and resources. Thus, the Protection of Wildlife and Conservation of Natural Areas Law 1994 allows for land rental and service fees to be charged, for hunting licenses to be issued (outside PAs, and for non-protected species), for zoological and botanical gardens to be licensed and operated as joint ventures between the government and private individuals/companies, and for a variety of penalties and fines to be imposed for carrying out actions which are prohibited under the law or which cause loss and damage to the Forest Department.

The 2002 Rules relating to the Protection of Wildlife and Conservation of Natural Areas further elaborate the activities for which fees will be charged. It also contains some guidance on how the resulting revenues should be used. Article 20 for example calls for the “sharing of profits from commercial activities based on international research based on the use of wild animals and plants obtained in Myanmar”, while Article 23 specifies “making plans and carrying out eco-tourism and reinvesting part of the income for the development of Nature Reserves”.

Various other references are made in the 2002 Rules to the payment of fees for activities carried out in PAs, including “scientific research on totally protected wild animals” (Article 30), “capture of protected wild animals to be raised on a commercial basis” (Article 35), for the “operation of a zoological garden or botanical garden” (Article 56). Article 68 requires that the Courts should impose penalties for environmental offences as well as the payment of compensation for losses to Forest Department property, and Articles 70 and 72 allow for the handover and sale of confiscated animals, plants and related equipment and vehicles by State, Divisional or Township Forest Officer. Article 20 of the Forest Law 1992 allows for the Direct General to determine the rate of royalty and other fees for the extraction of forest produce. Article 51 of the Forest Law, Article 45 of the Protection of Wildlife and Conservation of Natural Areas Law and Article 75 of the Protection of Wildlife and Conservation of Natural Areas Rules stipulate that all fees and penalties due “are to be treated as if they were arrears of land revenue”.

The management jurisdictions and revenue-raising powers of different levels of government, including PAs, are assigned by the 2008 Constitution, and are strictly delineated between the Union and States/Regions. Schedule One of the Constitution (the Union Legislative List) designates environmental protection and conservation (including forests, wildlife, natural plants and natural areas) as a Union responsibility. Schedule Two (the Region or State Legislative List)

names recreation centres, zoological gardens and botanical gardens. Schedule Five lists the taxes and revenues that are to be collected by the Region or State government (and deposited in the Region or State fund) to include taxes collected on woods other than teak, other restricted hardwoods and most non-timber forest products, entertainment fees, royalties collected on freshwater and marine fisheries, as well as land revenues and water taxes, and rent and other revenues from properties owned by and services/enterprises run by the region or state. Section 231 states that all public taxes and revenues not listed in Schedule Five will be collected by the Union.

The Constitution is also clear about fiscal administration. All taxes and revenues are administered via the public budget: those collected by MOECF must be paid to the Union Fund (as laid out in Section 231), and those collected by Region and State governments are to be deposited in the Region or State fund (Section 254). Earnings are required to be placed into the collecting organisation's MEB account, from whence they are settled (along with payments) through the CMB State Fund Account (UNICEF 2014b). Here, the key point to emphasise is that revenues collected by government agencies (including PAs) are not routinely retained, earmarked or used to meet own operating expenditures – public funding (including to PAs) is normally allocated and channelled solely through the Union Fund, via the budget of the parent line ministry (in this case MOECF).

There is one exception to this rule. Special funds, known as 'Other Accounts' (OAs) may be held to absorb and manage all or a portion of own-source revenues (for instance from user fees, revolving funds, trust funds or donations). Examples include the retention of pre-school PTA fees by the Department of Social Welfare (UNICEF 2014b), Ministry of Health accounts to hold receipts from community cost-sharing, hospital equity funds and interest on trust funds, Ministry of Public Works accounts for maintenance income, cement sales and housing rentals, and Ministry of Education accounts for dormitory fees (World Bank 2013). Because OA revenues and expenditures are not included in routine fiscal reports (and are therefore not shown in the Government's budget data) they are also relatively flexible as to the uses to which they can be put. Other accounts are either held by the MEB (for domestic revenues) or the Foreign Exchange Trade Bank (for foreign exchange earnings). Although they are treated as being exceptional or as special cases, both the number and value of OAs seem to be substantial. Around 13,400 OAs were reported to be in existence in 2011/12, accounting for receipts of MMK 2.54 trillion and expenditures of MMK 2.26 trillion – some 44% and 28% of total budgeted revenues and expenditures respectively (World Bank 2013). Despite the possibility, in theory, of utilising OAs to retain and administer PA revenues, MOECF does not currently operate any extra-budgetary funds.

In terms of public financing, PAs thus depend wholly on subventions from the Union budget, administered through MOECF. PAs are however also eligible to benefit from externally-financed projects. The Foreign Economic Relations Department of MNPED is charged with management of all external assistance, with grants being managed by the Grant Aid Foreign Assistance Steering Committee, chaired by the President with the Minister of MNPED as



secretary (Rieffel and Fox 2013). Each externally-funded project has its own special account, governed by Ministry of Finance and Central Bank of Myanmar regulations. While discrete grants and projects remain the main source of channelling external funding in Myanmar, four multi-donor trust funds have to date been set up: the 3 Diseases Fund (now the Three Millennium Development Goals Fund), Multi-Donor Education Fund and Livelihoods and Food Security Trust Fund. No multi-source trust funds for the environment or nature conservation are yet in operation.

## New and emerging PA financing mechanisms

Several new PA funding models have recently begun to emerge, although most are still at the design stage or in a very early phase of development. A number of agreements have been negotiated with private sector companies to support environmental activities – mostly via corporate environmental and social responsibility (CESR) programmes. One of these (the Taninthayi Nature Reserve Project) directly funds PA conservation. Another example is provided by Tokio Marine & Nichido, a Japanese insurance company, which has been funding mangrove conservation and restoration in Ayeyarwady Division since 1998. The management of these corporate funding sources is further described below, in Chapter 3. It is also reported (although not documented) that preliminary discussions about the possibility of providing voluntary funding to site-level social and environmental activities have been initiated with potential hydropower, oil and gas, mineral and other extractive industry developers as well as with the tourism sector.

In particular, there appears to be a growing interest in investigating ways in which corporate contributions and commercial revenues can be retained at the Regional and State level and reinvested in social and environmental activities. The Shan State Government is reported to have established a ‘Fund for Poverty Reduction and Environmental Conservation’ by decree from the Chief Minister, utilising contributions from mining developers (Thet Aung Lynn and Oye 2014). A trust fund for Inlay Lake has been in process for some time now, funded via the public budget as well as the retention of 50% of tourist entry fees, and intended as a mechanism to finance the 2015-25 conservation plan. An ecotourism management strategy is currently under development that offers the potential to direct tourism-related revenue streams toward PA management and conservation efforts, including through the development of private sector concessions and funding arrangements (ICIMOD 2015).

There are also indications that the modalities for the management of public PA revenues and expenditures may be in the process of being rethought. In particular, there are a number of ongoing discussions about financial mechanisms that lay more emphasis on the ‘user-pays’ principle, incorporate some level of market-based instruments, and work through extra-budgetary channels. As early as 1995, the Forest Policy mentioned the establishment of an autonomous forest development fund as a planned policy measure, and raised the possibility of generating funds through cost-sharing with other sectors which benefit from forestry such as

irrigation, fisheries, agriculture, tourism and energy. Most recently, the 2014 Summary on Nature and Biodiversity Conservation highlights payments for ecosystem services (PES) as one of the best solutions for achieving the sustainable financing of nature and biodiversity conservation (NWCD 2014). The Environmental Conservation Department (ECD) of MOECF has now been mandated to investigate PES further, including legal requirements. Along similar lines, the REDD+ Readiness Roadmap demands the establishment of a dedicated financial mechanism and benefit-sharing arrangements for REDD+ payments, and mentions a variety of other sustainable financing mechanisms for the forest sector such as a carbon tax, carbon offsets, PES and sharing of timber revenues (UN-REDD 2013).

The Environmental Conservation Law 2012 provides an important entry point for the introduction of new environmental revenue streams and the development of systems to absorb, retain and administer funding from market-based and extra-budgetary sources. Article 7 includes among the duties and powers of the ECD “submitting proposals to the Committee for economic incentive mechanisms” as well as instituting polluter pays mechanisms, soliciting funding contributions from the beneficiaries of environmental services, and instituting cost-sharing from resource-based businesses. Article 8 then specifies that “the Ministry shall establish an Environmental Management Fund in the Union Budget in accord with the financial regulations and by-laws of the Union for effective implementation of environmental conservation works in addition to the receipt from the Union Consolidated Fund”.

The draft Environmental Conservation Rules elaborate these provisions further. Chapter V specifies that the Environmental Management Fund will be funded via the State budget, MOECF income, pollution charges, payments for environmental services, cost-sharing and benefit-sharing by resource-based businesses, as well as other sources of loans, donations, aid and official income received by MOECF and the Environmental Conservation Committee from domestic and international sources. MOECF is authorised to set appropriate levels of environmental compensation, payments for environmental services and other contributions, while the ECD is assigned to manage, use, transfer, account for and report on the Fund under the guidance of the Committee. The fund is to be administered via a drawing account in any State-owned bank, with separate sub-accounts and records as necessitated by its different sources. The resulting funds are to be used for “special matters relating to the environmental management, conservation and enhancement of environment for the protection of ozone layer, biodiversity conservation, conservation of coastal environment, mitigation of and adaptation to the global warming and climate change, pollution control, management of persistent organic pollutants, doing research and development works relating to environmental conservation and other environmental matters”.

### 3 PA financing status and trends: funding sources, flows & gaps

*This chapter analyses the size, composition and use of PA funding. The main findings are:*

- *PAs are currently financed entirely from the Union budget and externally-funded projects. Self-generated revenues remain negligible, both as a percentage of total FD earnings and in relation to PA management costs.*
- *An average of USD 1.9 million a year, or USD 43/km<sup>2</sup>, has been spent on PAs since 2010<sup>7</sup>. Union funds contribute 41% of this figure (USD 0.79 million a year) and externally-funded projects account for 59% (USD 1.1 million).*
- *When calculated on an area basis, levels of external funding and NWCD spending are similar (USD 25-26/km<sup>2</sup>/year). Direct staff costs (mainly salaries and associated remuneration and benefits) accounted for just under two thirds of public budget allocations in 2014/15.*
- *Absolute funding levels differ greatly between sites, with four PAs accounting for more than a half of total spending since 2010/11. Only just over half of PAs receive a dedicated public budget or have permanent staff.*
- *More than 20 PAs currently benefit from externally-funded projects, accounting for 85% of sites and 98% of the area under the active management of NWCD, as well as two PAs in which NWCD currently has no staff.*
- *While the amount of public budget allocated to PAs has risen by around 50% in real terms over the last 5 years and externally-funded grants and projects have increased even more steeply, there remains a critical shortage of funds.*
- *Even though salaries dominate spending, PAs continue to face serious shortfalls in staffing: only half of approved positions are filled. Most PAs also lack a budget for core infrastructure, equipment, maintenance and running costs, as well as to fund key on-the-ground conservation activities.*

#### Public budget

In the financial year 2014/15, Union funds worth MMK 1.06 billion (USD 1.03 million) were allocated to PAs (Table 1). PAs were thus the main component of NWCD's budget, consuming just over 90% of funds. While FD accounted for two thirds of MOECF spending (MMK 13.62 billion or USD 13.29 million), the share of FD funding going to NWCD was relatively low at 8.5% (MMK 1.15 billion or USD 1.12 million). Overall, the MOECF budget (MMK 21.46 billion or USD

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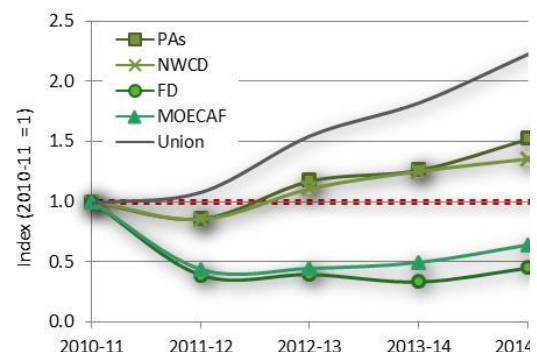
<sup>7</sup> The analysis focuses on trends over the last 5 years – in other words since the 2010 elections, which marked the start of a transition towards a more open economy and decentralised model for public financial management. To account for the effects of inflation and exchange rate fluctuations and to enable the comparison and aggregation of values between years, all figures are expressed at constant 2015 USD.

Table 1: Share of environment & nature conservation sectors in Union budget 2010-15

	2010/11	2011/12	2012/13	2013/14	2014/15
<b>Current MMK billion</b>					
Union [1]	4,379	4,894	7,414	9,297	12,127
MOECAF [2]	27.04	12.02	12.99	15.44	21.46
FD [3]	24.27	9.79	10.53	9.49	13.62
NWCD [4]	0.68	0.60	0.83	0.99	1.15
PAs [5]	0.56	0.50	0.72	0.82	1.06
<b>Constant 2015 USD million[6]</b>					
Union	5,297	5,757	8,241	9,692	11,831
MOECAF	32.71	14.14	14.44	16.10	20.93
FD	29.36	11.52	11.71	9.90	13.29
NWCD	0.83	0.71	0.92	1.04	1.12
PAs	0.68	0.58	0.80	0.86	1.03

[1] Calculated from consolidated accounts presented in IMF 2014, includes current and capital expenses and net acquisition of non-financial assets, but excluding State-owned economic enterprises. [2] from MOECAF figures, Excluding funding to Myanmar Timber Enterprise. [3,4,5] from MOECAF figures. [6] adjusted to 2015 price levels using CPI deflator from IMF World Economic Outlook Database, April 2014, converted to USD at prevailing market exchange rate. Index of real change in environment and nature conservation sector funding based on change in budget calculated at constant 2015 USD.

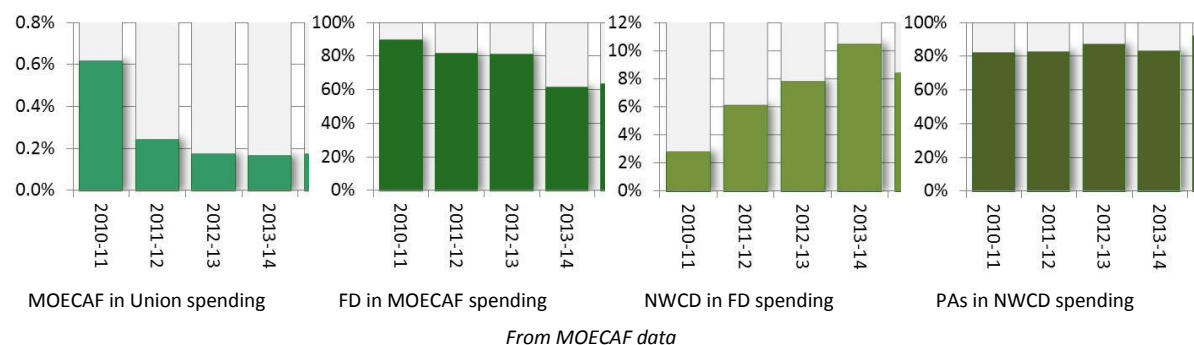
Figure 5: Index of real change in environment and conservation sector funding 2010-15



20.93 million) accounted for just 0.18% of total Union expenditures on line ministries and departments (MMK 12,127 billion or USD 11.8 billion). This compares to around 5.7% for the health sector, 11% for education and 0.29% for social welfare (UNICEF 2014b).

The share of the NWCD budget spent on PAs has changed little over the last five years at between 80-90%, and MOECAF allocations have for the most part remained steady at around 0.2% of total Union funding to line ministries and departments (Figure 6). The exception was in 2010, the election year, when MOECAF received unusually high current and – especially – capital budget allocations. This was almost entirely consumed by an increased allocation to FD, which received a current budget that was almost twice as much as that given in succeeding years and a capital budget which was more than four times higher. The share of the MOECAF budget allocated to FD has progressively fallen over the last five years, while the portion of FD funding spent on NWCD has generally increased. Overall, the Union budget has been rising steadily (Figure 5), meaning that the absolute value of funding provided to NWCD and PAs has grown since 2010. The NWCD budget increased by around a third in real terms, and PA allocations rose

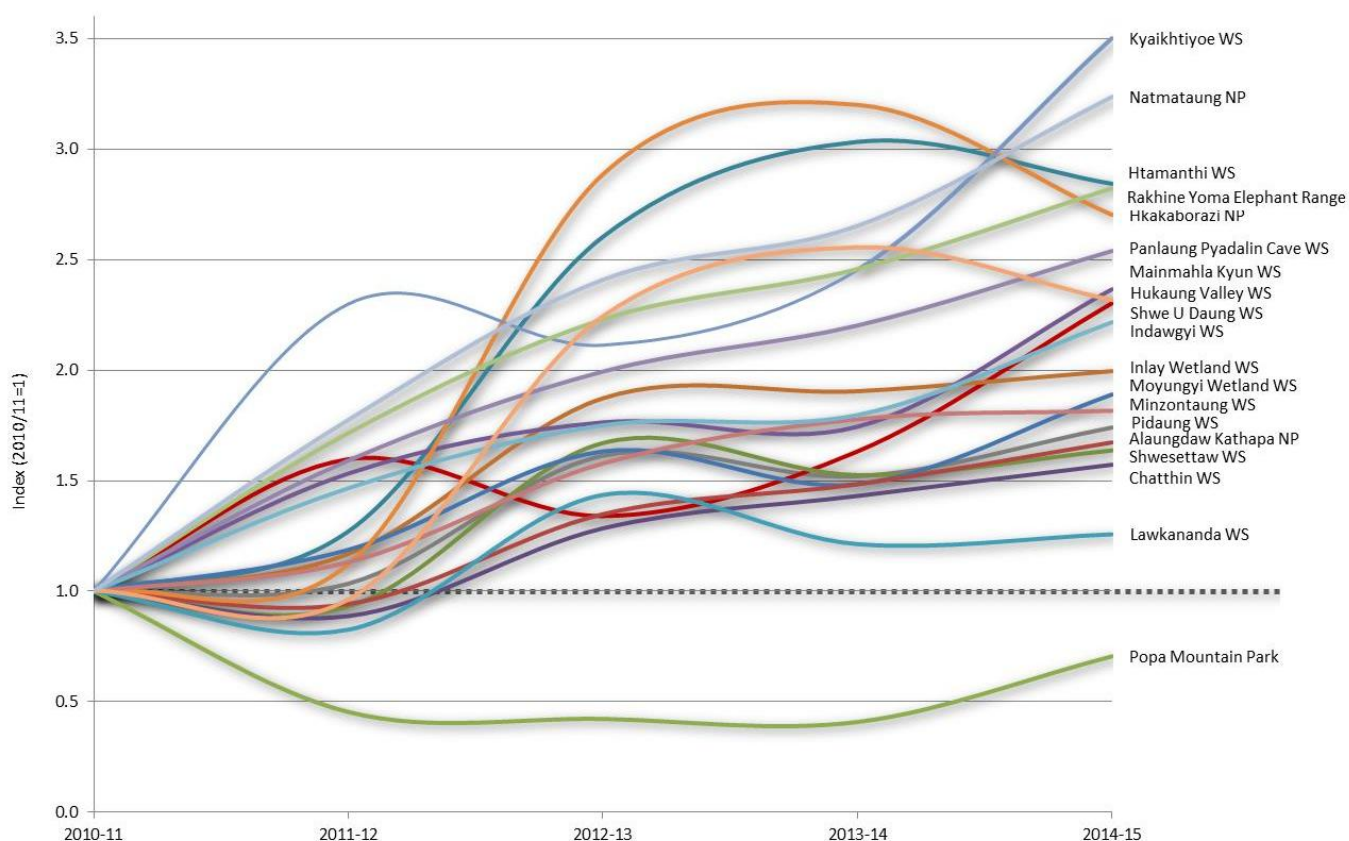
Figure 6: Proportion of Union budget allocated to MOECAF, FD, NWCD and PAs 2010-15



by more than a half (Figure 5, Figure 7). Meanwhile, MOECF and FD budgets also have shown a steady – albeit slightly more modest – increase since 2011/12.

The NWCD budget is divided between the twenty PAs that are staffed and actively managed. All have registered a general increase in Budget allocations over the last five years<sup>8</sup> (Figure 7, Table 2). Absolute funding levels however differ greatly between sites, (Table 2), with four PAs accounting for more than a half of total spending since 2010/11: Popa Mountain Park (22%), Alaungdaw Kathapa National Park (13%), Shweseettaw Wildlife Sanctuary (9%) and Namataung National Park (7%). A variety of factors account for these relatively high funding levels, including conservation priority, size, tourist visitation levels and levels of staffing and on-the-ground management. There is also a wide variation in average annual spending per unit area, with figures ranging between USD 2 and USD 84,000 per km<sup>2</sup> and generally (although not exclusively) exhibiting an inverse relationship to PA size (Figure 8). Across the entire network, an average of USD 25/km<sup>2</sup>/year of public funding has been invested in PAs over the last 5 years.

Figure 7: Index of real change in PA budgets 2010-15 (constant 2015 USD)



From MOECF data; Index of real change in budget funding based on change in budget calculated at constant 2015 USD using CPI deflator from IMF World Economic Outlook Database, April 2014, converted to USD at prevailing market exchange rate. Excludes Lampi Island Marine NP as this received budget only from 2013/14.

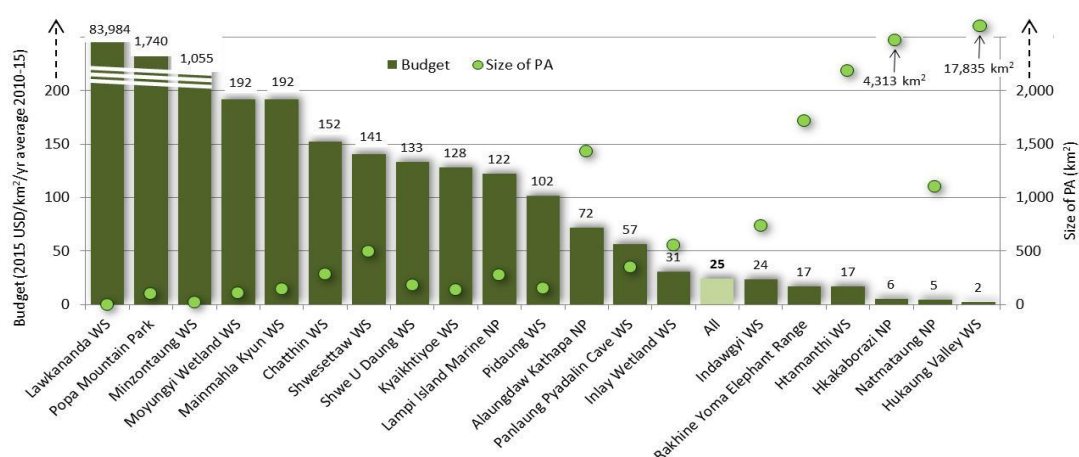
<sup>8</sup> Popa Mountain Park shows a slightly different growth pattern as compared to other PAs. It received an unusually high travel budget in 2010/11 of more than MMK 175 million (USD 212,300 at today's prices), meaning that the budget decreased in real terms between 2010/11-2011/12. The PA budget has however risen in real terms since 2011/12.

Table 2: Budget allocations per protected area 2010-15 (constant 2015 USD)

Protected area	2010/11	2011/12	2012/13	2013/14	2014/15
Pidaung WS	11,036	11,403	17,791	16,763	19,202
Shwe U Daung WS	15,529	24,765	20,772	25,315	35,740
Shwesettaw WS	51,754	48,191	86,470	78,960	84,738
Chatthin WS	35,062	31,094	45,022	50,157	55,105
Htamanthi WS	17,455	22,156	45,416	52,924	49,608
Inlay Wetland WS	10,918	12,772	20,422	20,767	21,756
Moyungyi Wetland WS	13,790	16,352	22,497	20,450	26,043
Alaungdaw Kathapa NP	79,970	75,221	107,738	118,578	133,716
Popa Mountain Park	285,354	129,545	120,499	116,575	201,402
Mainmahla Kyun WS	16,575	25,406	29,245	28,917	39,225
Lawkananda WS	32,256	26,606	46,272	39,095	40,534
Lampi Island Marine NP	n/a	n/a	n/a	29,276	37,649
Hkakaborazi NP	10,938	12,295	31,549	34,982	29,552
Kyaikhtyoe WS	7,734	17,786	16,344	18,979	27,079
Minzontaung WS	12,106	13,688	19,097	21,513	21,979
Rakhine Yoma Elephant Range	14,399	24,698	32,090	35,354	40,610
Panlaung Pyadalin Cave WS	10,668	16,960	21,254	23,476	27,076
Indawgyi WS	10,748	15,748	18,806	19,304	23,817
Hukaung Valley WS	15,334	14,701	34,403	39,199	35,531
Natmataung NP	25,611	45,409	61,651	67,897	82,853
Total	677,236	584,794	797,340	858,482	1,033,214
Average per km <sup>2</sup>	33.06	28.55	25.05	26.74	32.18

As has been mentioned in the previous chapter, MFAR and MNPED follow a short-term financial planning horizon. No forward estimates of budget, future expenditure ceilings or resource constraints are made beyond the next fiscal year, and there is no comprehensive or binding medium-term expenditure framework or strategic plan for PAs which indicates their financing needs over the medium or long-term. For this reason, it is not possible to make any firm estimate of future public budget allocations to PAs. It can however be assumed that, at a minimum, existing levels of staffing and funding will be maintained and will at least increase in line with the projected growth in area of the national PA network.

Figure 8: Variation in per hectare spending between PAs (avg 2010-15, base 2015 USD)



From MOECAP data; excludes Lampi Island Marine NP as this received budget only from 2013/14.



## Expenditure patterns and targets

Direct staff costs (mainly salaries and associated remuneration and benefits) accounted for just under two thirds of PA budgets in 2014/15 (Table 3). Although it has not been possible to obtain a breakdown of PA budgets, detailed figures are available on NWCD expenditures. As discussed above, PAs account for the vast majority of NWCD's budget allocation, and so NWCD data can be taken as being indicative of PA expenditure patterns. These show that staff remuneration consumed almost 80% of last year's NWCD budget, and other labour charges 10%, meaning that in total some 90% of annual spending was on human resources (Figure 9). Travel and transport (including allowances associated with routine PA management activities such as patrolling, boundary demarcation, etc.) consumed around 3% of the budget and a similar amount – USD 37,800 – was spent on machinery, equipment and infrastructure, while utilities, rent and taxes accounted for just under 2%. This left just 2.4% or USD 26,600 for other activities, consumables and running costs – an average of just over USD 1,300 per PA for the year.

Figure 9: Breakdown of 2014/15 NWCD budget by category of expenditure

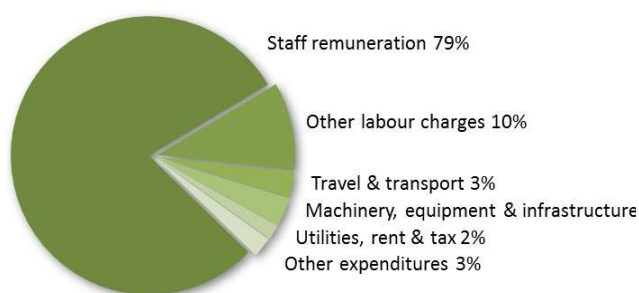
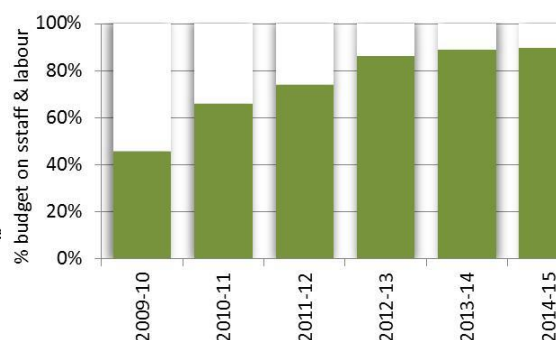


Figure 10: Share of NWCD spending on staff remuneration and labour charges, 2009-15



From MOECAP data

Table 3: Budget allocations to PAs and NWCD by category of expenditure 2010-15 (constant 2015 USD)

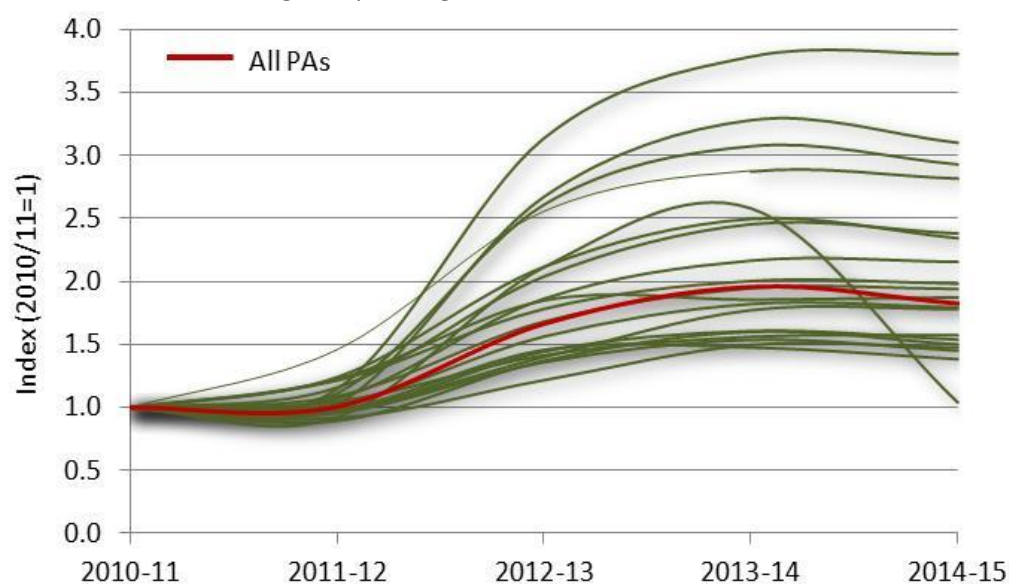
	2010/11	2011/12	2012/13	2013/14	2014/15
<b>Protected Areas</b>					
Direct staff costs	355,083	359,856	593,814	697,381	650,538
Other expenditures	322,153	224,938	203,526	161,101	382,676
<b>Total</b>	<b>677,236</b>	<b>584,794</b>	<b>797,340</b>	<b>858,482</b>	<b>1,033,214</b>
<b>NWCD</b>					
Salary	484,458	461,797	409,898	521,742	607,817
Other staff remuneration	-	-	277,783	287,299	279,935
Sub-total	484,458	461,797	687,681	809,041	887,752
Travelling Allowance	8,181	11,776	30,377	30,739	30,513
Sub-total	8,181	11,776	30,377	30,739	30,513
Labour charges	53,866	57,696	101,487	110,093	112,904
Tax	3,515	1,515	1,094	1,162	2,235
Rent	722	1,100	1,673	1,663	994
Transport charges	2,598	7,174	3,724	2,801	2,022
Labour charges	5,663	2,635	2,868	2,630	2,162
Fuel, Lubricant	174,037	49,858	1,601	1,061	568
Telephone charges	3,804	4,200	6,693	5,567	3,387

	2010/11	2011/12	2012/13	2013/14	2014/15
Electricity	5,155	5,269	5,085	5,831	13,295
Newspaper, journals	952	1,319	1,174	1,620	1,324
Uniforms	-	-	-	-	-
Consumable goods	8,060	25,931	22,816	15,929	9,917
Medicare	-	-	-	-	-
Animal feed	11,402	10,606	10,972	11,608	12,947
Animal medicine	1,218	1,373	2,111	1,374	1,333
Printing	959	715	556	417	390
Show Room	1,599	-	172	1,097	195
Conferences	1,002	533	156	1,393	522
Sub-total	274,553	169,925	162,182	164,245	164,197
Machinery, machine tools	5,454	4,510	3,056	1,551	767
Building	7,116	40,305	12,569	10,038	10,810
Roads	363	407	-	-	-
Vehicle	12,979	11,736	8,920	10,447	17,947
Boat, steamer	762	717	2,255	1,168	993
Reserve Forests	-	1,709	1,952	78	410
Miscellaneous	32,412	2,912	8,293	7,710	6,894
Sub-total	59,086	62,296	37,045	30,993	37,821
Total	826,278	705,793	917,285	1,035,018	1,120,283

From MOECAF data

Not only do staff remuneration and labour charges account for the lion's share of the NWCD budget, but their contribution has been growing over time: from just over 40% of the total in 2009/10 to almost 90% during the current financial year (Figure 10). This increase is at least partially due to the long-overdue salary increases which were noted in the 2012/13 budget and thereafter. Overall, PA salary bills have almost doubled in real terms since 2010, and at many sites the increase has been far higher<sup>9</sup> (Figure 11).

Figure 11: Index of real change in spending on staff remuneration 2010-15 (base 2015 USD)



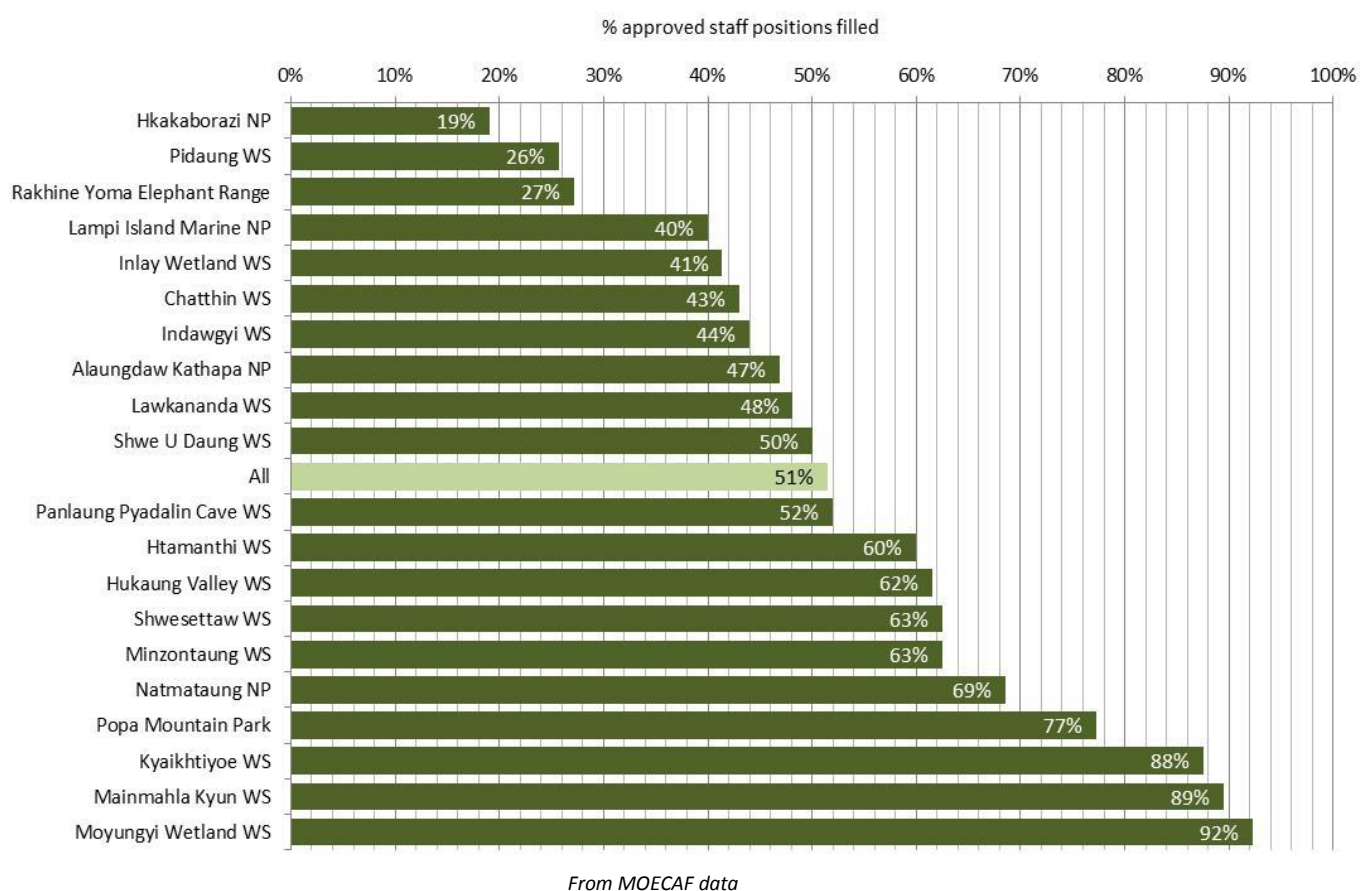
<sup>9</sup> The only exception to this general growth in PA salary bills appears to be for Hukaung Valley Wildlife Sanctuary. Although expenditures on direct staff costs doubled during 2012/13 and 2013/14 as compared to previous years (due to the more increase in salary levels, as well as the implementation of extension to the PA), they then halved again in the current financial year. It is not clear why this is the case.



*From MOECAP data; Index based on budget calculated at constant 2015 USD using CPI deflator from IMF World Economic Outlook Database, April 2014, converted to USD at prevailing market exchange rate ; excludes Lampi Island Marine NP.*

Yet, despite this general increase in spending on human resources (overall and in terms of the real level of remuneration offered), most PAs face major shortfalls in staffing. This has already been mentioned in the previous chapter as being a key factor constraining the amount of budget they can request, receive and absorb. It also severely constrains the level and type of on-the-ground conservation activities that can actually be implemented. Overall, only 51% of approved staff positions have been filled, and half of PAs are operating below 50% capacity (Figure 12).

Figure 12: Variation in staffing levels and filled positions between PAs (average 2010-15)



These figures make it clear that there remains a critical shortage of funds for key conservation activities, and that little or no money is available to invest in essential equipment, infrastructure and capital. Perhaps the greatest PA financing constraint is, however, that only twenty PAs (out of the 24 managed by NWCD and 36 in total in Myanmar) are actually staffed, or receive a government budget. Sixteen sites<sup>10</sup>, accounting for more than 20% of the national PA estate, receive no dedicated staff or public funding at all.

<sup>10</sup> Comprising four PAs that are under the jurisdiction of NWCD, 12 managed by Township Forest Departments and one under private management.

## Externally-funded grants and projects

Numerous development donors, international organisations, domestic and international conservation NGOs, foundations and research centres provide some form of assistance to Myanmar's PAs. As well as direct funding, this includes a variety of in-kind and indirect support – for example via technical assistance, planning support, research and information-generation, training and capacity-building, regional and global networking, and national-level policy processes. More than 20 PAs currently benefit from externally-funded projects (Table 4), accounting for 85% of sites and 98% of the area under the active management of NWCD, as well as two PAs in which NWCD currently has no staff (Hponkanrazi Wildlife Sanctuary and Taninthayi Nature Reserve). Only three of the PAs managed by NWCD currently appear to be functioning without external assistance (Kyaikhtiyoe, Panlaung Pyadalin Cave and Pidaung Wildlife Sanctuaries).

Table 4: Externally-funded grants and projects by protected area

Protected area	External organisations implementing projects and grants
Alaungdaw Kathapa NP	ASEAN Centre for Biodiversity, Wildlife Conservation Society
Chatthin WS	Friends of Wildlife, Norwegian Ministry of Environment
Gulf of Morrama Ramsar Site	Biodiversity and Nature Conservation Association
Hkakaborazi NP	Wildlife Conservation Society
Hponkanrazi WS	Wildlife Conservation Society
Htamanthi WS	Wildlife Conservation Society
Hukaung Valley WS	Wildlife Conservation Society
Indawgyi WS	ASEAN Centre for Biodiversity, Fauna & Flora International, Michael Succow Foundation, Norwegian Ministry of Environment.
Inlay Wetland WS	Friends of Wildlife, Norwegian Ministry of Environment, UN-HABITAT, UNDP, UNESCO
Lampi Island Marine NP	Biodiversity and Nature Conservation Association, Fauna & Flora International, Myanmar Environment Rehabilitation-Conservation Network, Oikos International
Lawkananda WS	Wildlife Conservation Society
Lenya NP (proposed)	Fauna & Flora International, Biodiversity and Nature Conservation Association,
Mainmahla Kyun WS	ASEAN Centre for Biodiversity, Fauna & Flora International
Minzontaung WS	Wildlife Conservation Society
Moyungyi Wetland WS	Fauna & Flora International, Norwegian Ministry of Environment
Natmataung NP	ASEAN Centre for Biodiversity, Fauna & Flora International, Norwegian Ministry of Environment, Smithsonian Institution
Popa Mountain Park	Norwegian Ministry of Environment
Rakhine Yoma Elephant Range	Wildlife Conservation Society
Shwe U Daung WS	Rufford Foundation
Shwesehtaw WS	Norwegian Ministry of Environment, Wildlife Conservation Society
Taninthayi Nature Reserve	Fauna & Flora International, Motamma Gas Transportation Company/ Taninthayi Pipeline Company/ PTT Exploration and Production, Wildlife Conservation Society
Taninthayi National Park (proposed)	Fauna & Flora International.

It is noticeable that the private sector is beginning to play a progressively greater (although as yet still relatively minor) role in PA funding. On a commercial basis, the Htoo Group company (via its subsidiary Htoo Zoos & Garden Business Unit) has a management contract with the Forest Department to run Hlagwa Park, Pyin Oo Lwin Botanical Garden, Nay Pyi Taw, Yadanabon and Yangon Zoological Gardens. As mentioned in Chapter 2, this type of joint venture between the government and private companies to operate zoological and botanical gardens is enabled

under the Protection of Wildlife and Conservation of Natural Areas Law 1994. Also as described above, there appears to be a growing interest in investigating how public-private partnerships can be further developed, particularly in relation to tourism and under the coordination of Regional and State governments. Such plans however remain in their early stages.

As Myanmar's economy continues to open up to international investors (particularly in the oil, gas, minerals, hydropower, infrastructure and tourism sectors), there appears to be a growing interest in investigating new modalities for attracting corporate funding to PAs. To date, only one such model exists. The Taninthayi Nature Reserve is funded from three gas pipeline companies: the Total-operated Motamma Gas Transportation Company, Taninthayi Pipeline Company and PTT Exploration and Production. The project commenced in 2005 and is proposed to continue for the lifetime of the pipelines – at least until 2028 (Pollard et al. 2014). Payments are made as compensation (but not as direct offsets) for impacts on biodiversity along the pipeline route. A budget of USD 1.2 million was made available during each of the first two phases (2005-2012), and \$1.8 million is being spent during the third phase (2013-2016): a current average of around USD 450,000 per year. Funds are channelled to FD to be spent on an agreed workplan and set of activities, including the provision of top-up 'allowances' to PA staff salaries. WCS assists in financial administration and disbursement.

It is extremely hard to make an accurate estimate of the level of funding that is being provided to PAs via externally-funded grants and projects. There are no up-to-date disaggregated data on aid inflows, and organisations are understandably reluctant to disclose numerical information about project finances and expenditures. Attribution of spending to in-country, on-the-ground PA conservation activities also remains a challenge: a large proportion of the funding for biodiversity conservation projects is spent outside Myanmar (for example on travel and salaries, consultants, organisational overheads, equipment and technologies purchased elsewhere and other international costs), or are for mixed-purpose projects which target a number of different sites, activities and goals (often at a regional, or even global, level). It has only been possible to make a rough, and inevitably partial, estimate by combining the information that was shared during interviews with key donors and conservation organisations in Myanmar with that presented in the reports and databases of selected international conservation organisations and funding agencies<sup>11</sup>. This list includes major bilateral and multilateral projects as well as larger-scale grants from international organisations and foundations, but excludes agencies' internal budgets and spending from core institutional funds, and leaves out a large number of small grants and informal contributions.

Since 2010, something over thirty externally-funded projects are recorded as having been implemented which are directly concerned with species and habitat conservation in and around

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<sup>11</sup> Including the AidData database (<http://aiddata.org/>), Organisation for Economic Co-operation and Development's Creditor Reporting System (CRS) Aid Activities database (<http://stats.oecd.org/Index.aspx?DataSetCode=crs1>) OECD / World Bank / Asian Development Bank / Inter-American Development Bank AidFlows tracking tool (<http://www.aidflows.org>), GEF projects database ([http://www.thegef.org/gef/gef\\_projects\\_funding](http://www.thegef.org/gef/gef_projects_funding)) and project lists of the Helmsley Charitable Trust (<http://helmsleytrust.org/programs/place-based-conservation/grants>) and Critical Ecosystem Partnership Fund ([http://www.cepf.net/grants/project\\_database/Pages/project-db-region-pages/indo-burma\\_II\\_projects.aspx](http://www.cepf.net/grants/project_database/Pages/project-db-region-pages/indo-burma_II_projects.aspx)).

Myanmar's PAs. Major donors include the ASEAN Center for Biodiversity, Critical Ecosystem Partnership Fund, European Union, Helmsley Charitable Trust, Global Environment Facility, Kreditanstalt für Wiederaufbau (KfW, the German Development Bank), United Nations Development Programme, and the Governments of Japan, Korea, Norway, United Arab Emirates, United Kingdom and United States. In total this funding was worth just under USD 4.5 million up to 2013/14. Assuming a typical 3-year time frame for each project, this translates to an average of USD 1.1 million a year being spent between 2010/11 and 2013/14 (a figure which is similar to that estimated in the UNDP-GEF PA financial sustainability scorecard for 2012). Calculated on an area basis, this equates to an average of USD 26/km<sup>2</sup>/year for the period 2010/11 to 2013/14. This compares to spending on PAs from Union funds of just under USD 3 million or USD 25/km<sup>2</sup>/year (at 2015 prices) over the same period.

Unfortunately, data are not available to permit any projection of future trends in external funding. It should however be noted that during the current financial year a massive rise in funding commitments was registered: PA projects worth an estimated USD 18.7 million were initiated. It is not known how long these projects will run. These figures are not included in the five-year averages used in the calculations above. This is because almost all of these new projects are large-scale ones which are being channelled through international NGOs, meaning that only a small proportion of funds are likely to be used for on-the-ground conservation management activities and direct budget support. A large proportion of funding is likely to be retained by the implementing organisation to cover its own expenditures, or used to fund costs incurred outside Myanmar. It seems highly probable that these patterns of funding will continue to increase substantially, at least over the short-term.

## Self-generated revenues

As described in Chapter 2, PA revenues are not earmarked, retained or reinvested, but are remitted to the Union Fund. They therefore cannot strictly be considered to be a source of conservation funding – although may have the potential to be so in the future, should the proposed Environment Management Fund become operational. Over the last three years, the real value of NWCD revenues has fluctuated between USD 14,500 and almost USD 20,000 a year (Table 5). It is not clear why unusually high income was recorded in 2009/10 and a very low figure was logged in 2010/11.

Table 5: NWCD revenues 2009-14 (constant 2015 USD)

	2009/10	2010/11	2011/12	2012/13	2013/14
Sale of commodity and Income from services					
Commodity sales	142	80	113	78	86
Income from services	59,047	1,177	12,933	16,349	13,097
Rent	10,775	3,268	1,176	2,779	2,606
Tax	14	-	-	-	-
Sub-total	69,977	4,525	14,223	19,207	15,790
Other income, fines and confiscations					

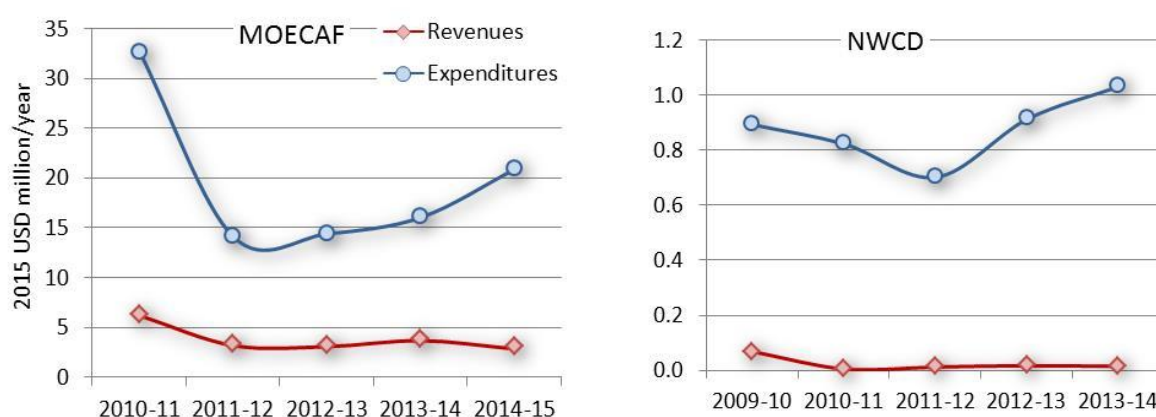
	2009/10	2010/11	2011/12	2012/13	2013/14
Other income	188	1,455	296	169	1,073
Fines	-	1,159	-	-	-
Sub-total	188	2,615	296	169	1,073
Total	70,165	7,140	14,519	19,375	16,862

From MOECF data

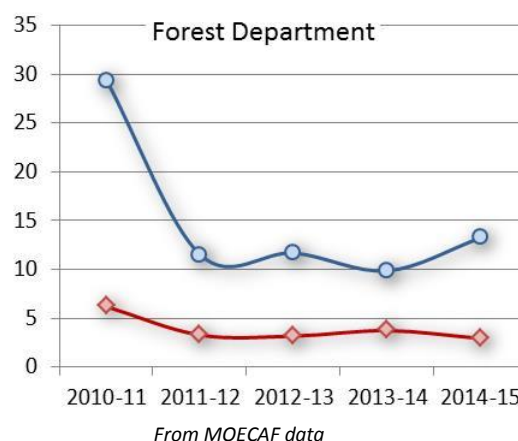
The bulk of PA revenues was earned from the provision of tourism services, including land rental and concession fees. In 2012/13, just under 35,000 foreign tourists were recorded as visiting nine PAs under the management of NWCD<sup>12</sup>. It should however be noted that the charges and fees earned from recreation and tourism are collected by a number of government agencies in addition to NWCD, including the Ministry of Hotels and Tourism and Regional/State governments. For example, the Ministry of Tourism and Hotels collects entry fees in Hkakaborazi and Natmataung National Parks and Lampi Island Marine National Park. As already mentioned above, zonal fees are collected at Inlay Lake Wildlife Sanctuary and partially retained by Shan State Government. Hotel concession fees in Popa Mountain Park, Moyungyi Wetland Wildlife Sanctuary and Hlawga Park are estimated to total more than USD 60,000.

The PA revenues earned by NWCD therefore remain very small, in both absolute and relative terms. Between 2010 and 2014, the total earnings of just under USD 60,000 accounted for just 0.34% of Forest Department revenues and was worth only around 2% of the expenditures made on PAs over the same period (Figure 13).

Figure 13: Change in MOECF, FD and NWCD revenues and expenditures, 2010-15 (constant 2015 USD)



<sup>12</sup> Alaungdaw Kathapa National Park, Hkakaborazi National Park, Hponkanrazi Wildlife Sanctuary, Lawkananda Sanctuary, Mainmahla Kyun Wildlife Sanctuary, Moyungyi Wetland Sanctuary, Natmataung National Park, Panlaung Pyadalin Cave Wildlife Sanctuary and Popa Mountain Park.



As has been mentioned in the previous chapter, MOECAP follows a short-term financial planning horizon. Revenues are projected only for the next fiscal year. For this reason, it is not possible to make any detailed estimate of likely future PA revenues, although it can be assumed that income will be maintained at least at current levels. Should new mechanisms for revenue generation and financial retention be introduced, this figure has the potential to increase substantially.

## Possible PA funding gaps under different management scenarios

The data presented above suggest that since 2010 PAs have received an annual average of USD 1.11 million or USD 26/km<sup>2</sup> of external funding and USD 0.79 million or USD 25/km<sup>2</sup> of public budget, equating to an overall investment of USD 1.9 million a year or USD 43/km<sup>2</sup>.

While it is clear that current PA budgets are not adequate to ensure effective conservation management, no estimate exists of what the minimum funding needs are – let alone the optimal level. To come up with an accurate figure would require that both system-wide and site-level management plans are developed, and costed properly. As these figures do not yet exist, it is at present only possible to make a very rough approximation of PA funding needs, using comparative data from other countries and from global studies. The figures provided below must therefore be treated with caution, and should not be taken as anything other than ballpark estimates that have been generated for illustrative purposes.

The global literature suggests that, across tropical developing countries, the ‘typical’ costs of effective PA management in similar ecological zones, socio-economic and institutional contexts, and management needs (adjusted to reflect 2015 Myanmar prices<sup>13</sup>) may average anything

<sup>13</sup> Much of the published literature on PA financing levels and needs across the world compares, aggregates and applies PA budgets and funding data in a somewhat indiscriminate, and not always appropriate, manner. It is important to remember that real costs and price levels vary – over time, and between countries. The costs of the staff, consumables and equipment required for effective PA management in Brazil in 2001, for example, cannot be exported wholesale to Myanmar in 2015. For this reason, figures must always be adjusted to take account of inflation and to compensate for differences in purchasing power parity, before they are applied in different places or years. Even adjusted estimates are a gross over-simplification, as they ignore the massive variation that exists in PA threats and management needs between sites.

between USD 185/km<sup>2</sup>/year (James et al. 2001) and USD 644/km<sup>2</sup>/year (Balmford et al. 2003). Studies in other ASEAN countries with put this figure at between USD 82-119 for basic operations and USD 74-355 for optimal management (Table 6). Even allowing for the high levels of uncertainty and variation that such single-figure estimates inevitably mask, current PA funding in Myanmar is clearly far below these levels. It should also be noted that the 2010-15 average spending of USD 25/km<sup>2</sup>/year from Union funds does not compare well with public expenditure levels of between USD 38-896 in other Southeast Asian countries.

Table 6: Estimates of PA funding levels and needs from other ASEAN countries

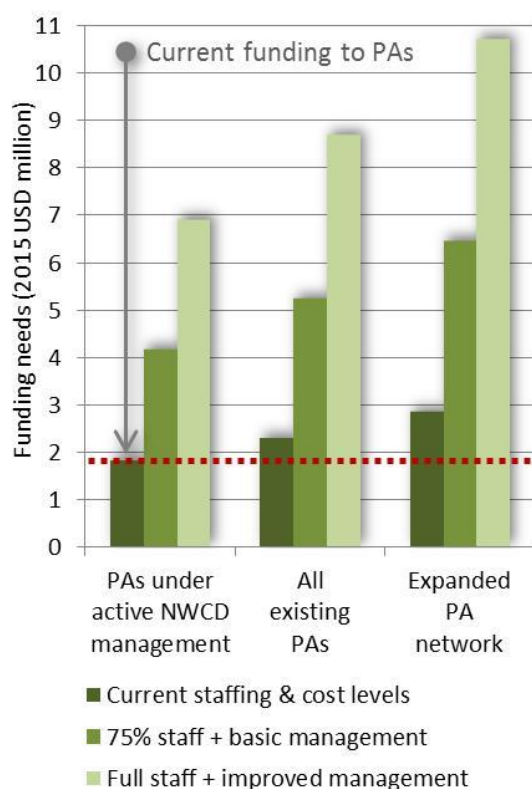
Country	Cost	Current USD/km <sup>2</sup>	2015 Myanmar USD/km <sup>2</sup>	Source
Cambodia	Basic funding level	100	82	Cutter and Hean 2010
Cardamom landscape	Adequate funding level	144	119	Grieg Gran et al. 2010
	Optimal funding level	159	131	
Indonesia	Actual public spending (National Parks)	97	38	McQuistan et al. 2009
	Actual public spending (Nature Reserves)	133	53	
	Optimal funding level (National Parks)	279	111	
	Optimal funding level (Nature Reserves)	895	355	
Lao PDR	Actual public spending	42	52	Emerton 2006
Malaysia	Actual public spending	992	97	Emerton 2013a
Philippines	Actual public spending	49	39	Mansourian and Dudley 2008
Thailand	Actual public spending	228	43	Emerton 2013b
	Optimal funding level	337	74	Leangcharoen 2011
Viet Nam	Actual public spending (Central PAs)	1,678	896	Emerton 2011
	Actual public spending (Provincial PAs)	617	329	

*Local currency figures adjusted to 2015 Myanmar price levels using CPI deflator and PPP GDP per capita conversion factors taken from IMF World Economic Outlook Database, April 2014. "Actual" figures reflect public spending only, "basic"/"optimal" figures incorporate funding from all sources.*

Guided by these figures, a set of indicative – and fairly conservative – scenarios can be posed which consider different levels of staffing, operational management and network coverage for Myanmar's PAs. An additional annual budget for non-staff recurrent costs of USD 100/km<sup>2</sup> is assumed for 'basic' management, rising to USD 175 for 'improved' management. The terms 'optimal' and 'effective' are deliberately not used, as these imply a value-judgement about the adequacy and impact of funding. 'Basic' and 'improved' merely imply progress beyond the current situation. Staff costs are added to these figures, calculated at existing average per capita salary and remuneration levels. Under the basic management scenario it is assumed that three quarters of approved positions will be filled, while the full complement of staff will be recruited under the improved scenario.

This brings total PA recurrent costs to an average of USD 130/km<sup>2</sup>/year for basic management and USD 215/km<sup>2</sup>/year for improved management – three and five times as much, respectively, as the current level. It should be noted that these figures exclude capital costs, which are impossible to estimate on the basis of available information. Needs for investment spending are however likely to be substantial, and the funding gap will increase still further once they are taken into account.





These three staffing, management and funding scenarios (actual staffing and current operational expenditure levels; 75% staffing and basic management budget; and full staffing and improved management budget) are modelled for three possible sizes of PA network: the twenty PAs that are currently actively managed by NWCD, the entire existing PA network (also including NWCD PAs that are not currently staffed or funded, as well as those managed by Township FDs and the private sector) and an expanded PA network (also including proposed PAs in Bago, Sagaing and Tanintharyi Regions). Funding gaps are calculated by looking at the difference between the projected cost requirements and the amount of PA funding that is currently available (including both Union funds and externally-funded projects, using average annual figures for the 2010/11-2014/15 and 2010/11-2013/14 periods respectively).

The results indicate a funding gap ranging from USD 460,000 a year to extend current staffing and expenditure levels across the entire existing PA network, up to a maximum of USD 8.88 million a year to achieve a fully-staffed, improved management and expanded PA network scenario (Table 7).



Table 7: PA recurrent cost needs and funding gaps under alternative staffing and management scenarios

	PA's under active NWCD management	Existing PA network	Expanded PA network
	20 PAs 32,109 km <sup>2</sup>	36 PAs 40,549 km <sup>2</sup>	>36 PAs 50,209 km <sup>2</sup>
Cost requirement (USD 2015 million)			
Current staffing & expenditure levels	1.86	2.32	2.87
75% staffing + basic management budget	4.20	5.26	6.49
Full staffing + improved management budget	6.93	8.71	10.74
Funding gap - staff costs (USD 2015 million)			
Current staffing & expenditure levels	-	-0.16	-0.35
75% staffing + basic management budget	-0.33	-0.56	-0.84
Full staffing + improved management budget	-0.66	-0.96	-1.34
Funding gap – other operational expenditures (USD 2015 million)			
Current staffing & expenditure levels	-	-0.31	-0.67
75% staffing + basic management budget	-2.00	-2.84	-3.79
Full staffing + improved management budget	-4.41	-5.89	-7.55
Funding gap – all costs (USD 2015 million)			
Current staffing & expenditure levels	-	-0.46	-1.01
75% staffing + basic management budget	-2.34	-3.40	-4.63
Full staffing + improved management budget	-5.07	-6.85	-8.88

## 4 Conclusions and next steps:

### PA financing needs, constraints & opportunities

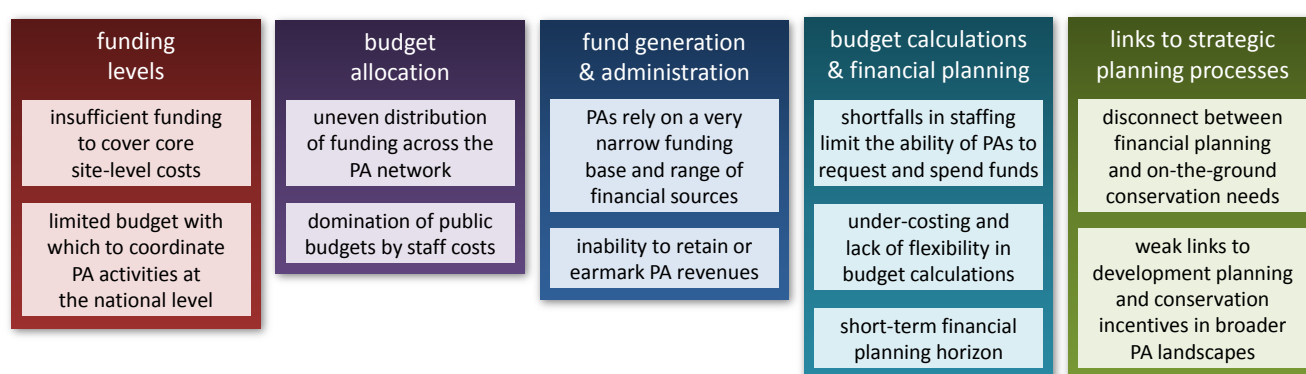
*Drawing on the preceding review of funding status and trends, this chapter identifies key financial constraints which act as barriers to effective PA management, and suggests needs, opportunities and strategic entry points for strengthening financial sustainability. Three categories of PA sustainable financing measures and instruments are identified and presented for consideration by MOECF for possible follow-up as part of the second phase of the current assignment. These include mechanisms to:*

- *Increase the size and diversity of PA financing sources and funding portfolios;*
- *Enhance revenue retention and promote direct reinvestment in conservation; and*
- *Streamline PA financial planning, costing and allocation procedures.*

### Key financial needs, constraints and barriers

The foregoing analysis presents ample evidence that Myanmar's PAs face severe budget constraints. Most PAs are unable to cover the costs of essential infrastructure, equipment, maintenance, running and operational activities – and many have no staff or funding at all. Although both public budget allocations and externally-funded projects and grants to PAs have shown a steady increase over the last five years, and look set to rise still further in the future, critical funding shortages still remain.

Figure 14: Key financial constraints to effective PA management



While budget shortfalls clearly undermine PA management effectiveness, it is important to remember (and has already been emphasised at the start of this report) that financial sustainability is only partly to do with the amount of funding available to PAs. In addition to insufficient funding to cover core site-level costs, the review of PA funding status has identified

ten particularly important financial constraints. These concern funding levels, budget allocation, fund generation and administration, budget calculations and financial planning, and links to strategic planning processes (Figure 14).

There is limited budget with which to coordinate PA activities at the national level. NWCD is mandated to maintain the national PA network as a whole, ensure coordination within the PA system and with other sectors, and implement government policies and laws on PAs. More than 90% of NWCD's budget is however consumed by site-level PA spending – in 2014/15, a balance of only just over USD 85,000 remained after PA budgets had been allocated. This is insufficient to adequately resource the staff and activities that are required to maintain the PA network at the national level.

Funding is distributed unevenly across the PA network. Three National Parks and one Wildlife Sanctuary consume more than half of the total annual public budget allocation to PAs. Meanwhile, around a third of PAs and 10% of the area under protection has no dedicated budget at all, from either government or external sources. This means that on-the-ground conservation is effectively zero in a large proportion of the national PA estate.

Staff costs dominate public budgets. In 2014/15 staff-related costs accounted for almost two thirds of government spending on PAs, and some 90% of NWCD's budget. There is little surplus funding available to meet other essential equipment, maintenance, running and operational management needs. These costs are mainly left to be covered by externally-funded projects.

PAs rely on a very narrow funding base and range of financial sources. PAs are financed from just two sources: the Union budget and external projects and grants. Up to the last financial year these contributed an average of 40% and 60% respectively of annual resource flows. Self-generated revenues are negligible. Only a limited range of PA funding sources are at present enabled by the law, which is largely restricted to 'traditional' fees and charges for tourism, land rental and fines.

PAs revenues cannot be earmarked or retained. All PAs earnings must be remitted to the Union fund. They do not accrue as income to the PA, NWCD, FD or MOECAAF, and are not reinvested directly in conservation. Even if PA financing sources were to be expanded, this would not automatically translate into an improvement in the availability of funds, because earnings would continue to be channelled to the central treasury. This also means that there are weak incentives for PA managers to implement charge and fee systems, or to collect and remit their proceeds.

Shortfalls in staffing limit the ability of PAs to request and spend funds. Despite the fact that salary costs dominate public spending, only around a half of PAs are actually staffed. Even those PAs that have staff face severe gaps in capacity: just 51% of approved positions have been filled, and the majority of PAs are operating below 50% capacity. Without sufficient human resources, it is not possible to carry out essential PA management activities or to deliver on key

conservation goals. Many PAs therefore face difficulties in spending their existing budget allocations – and for the most part would have only a very limited capacity to absorb and utilise additional funding, if it were to become available.

Budget calculations lack flexibility, and key expenditure items are often under-costed.

Standardised cost norms and inflators are the main tools used to calculate annual PA expenditure needs. Yet these rates tend to be unrealistically low, and cannot easily be adapted or modified in response to changes or differences in circumstances and conditions. The budget that a PA receives does not reflect its size, ease of management, level of threat or biodiversity significance. Thus, even where a budget is requested and allocated for certain activities or items, it may not be sufficient to cover the required expenditures.

PAs operate according to a short-term financial planning horizon. PAs budgets are planned, disbursed and spent over a one-year time period. No forward estimates of budget needs, expenditure plans or funding availability are made, and no information on longer-term expenditure frameworks, spending ceilings or resource constraints are provided by MOECF, MFAR or MNPED. There is also no carry over in funding or expenditures permitted across financial years. PA managers therefore cannot know with certainty what their future funding security is likely to be. This short-term time horizon discourages a more strategic approach to budgeting and financial planning, which would take future needs into account.

There is a disconnect between financial planning and on-the-ground conservation needs. The links between financial and conservation planning remain tenuous. There is limited communication between finance/ budget units and conservation managers. Most PAs do not integrate their financial and management planning processes, and therefore have little idea of what funding is required to deliver on core conservation activities and objectives. PAs do not follow output-based or activity-based approaches to budgeting, but rather prepare financial plans according to administrative expenditure categories. Spending tends to be focused on basic running costs and staffing, and activities that have the greatest importance in conservation terms are not necessarily accorded the highest priority when funds are allocated.

There are weak links to development planning and conservation incentives in broader PA landscapes. Land and resource management regimes within and outside PAs are subject to separate institutional, planning and financial arrangements, and are often driven by different (and sometimes even conflicting) policy goals. NWCD's management and budgetary jurisdiction extends only within PA boundaries. Meanwhile, the Regional and State authorities and other line ministries that are mandated to manage and develop the broader PA landscape are not responsible for funding or implementing biodiversity conservation activities. As a consequence, few measures are in place which attempt to integrate conservation and development goals, offset the local opportunity costs of PAs, address the economic threats to biodiversity, promote sustainable livelihoods, or provide positive incentives and rewards for conservation.

## Opportunities and strategic entry points for enhancing financial sustainability

A number of recent shifts in Myanmar's institutional, policy, economic and investment context potentially lend support to efforts to enhance PA financial sustainability. Five strategic opportunities and entry points in particular can be highlighted: existing and emerging legislation on environmental finance, the development by MOECF of new financial instruments and procedures, fiscal reform and decentralisation, opening of the economy to private sector and outside investors, and the presence of a large (and growing) number of externally-funded grants and projects in PAs (Figure 15).

Existing and emerging legislation in Myanmar both demands and enables a variety of new environmental financing measures. These include market-based, user-pays and incentive mechanisms as well as the proposed Environmental Management Fund. Meanwhile, a precedent has been set of establishing 'other accounts' to absorb, retain and administer own-source revenues. Although extra-budgetary fund provisions are yet to be implemented or operationalised in the environment sector, they offer a potentially important entry point for strengthening PA funding, retention and financial sustainability.

MOECF is currently in the process of developing several new financial instruments and procedures which have relevance to, or could potentially generate funding for, PAs. The design of a financial management system and benefit-sharing mechanism for REDD+ payments is to commence shortly, plans are currently underway to initiate a system of payments for ecosystem services (PES), and options are being investigated for the development of an Environmental Management Fund. The Environmental Conservation Department has been charged with taking these financial mechanisms forward.

Fiscal decentralisation forms a cornerstone of the government's current public financial management reform process (MFAR 2013), and is a key component of more general shifts towards strengthening local governance and administrative structures and promoting "people-centred development". To date, this has included the gradual roll-out of a medium term fiscal framework, as well as improved cash and debt management systems (UNICEF 2014a). A major thrust has also been to increase the share of expenditure and revenue collection in state and region budgets, and to enhance sectoral deconcentration and subnational budget allocation

Figure 15: Opportunities and strategic entry points for enhancing PA financial sustainability



within line ministries (Nixon and Joelene 2014). These ongoing national-level developments will exert a strong influence on how PAs are managed, funded and administered in the future. As well as opening the door to more streamlined and integrated procedures for PA financial planning, they may offer opportunities for NWCD to engage much more closely with Regional and State governments, and – potentially – to develop a variety of cost-sharing, revenue-sharing and joint management arrangements with them.

Myanmar's economy has opened up considerably to the private sector and outside investors over the last five years. Negotiations are ongoing with mining, oil and gas, hydropower, infrastructure and tourism developers about the terms of engagement, conditions of contract and concession arrangements under which these activities will take place. The government is in the process of developing environmental safeguards, and setting up systems by which to manage, mitigate and compensate environmental impacts. Myanmar has already submitted a candidacy request to the Extractive Industries Transparency Initiative (Thet Aung Lynn and Oye 2014), and discussions were recently initiated with IFC and the World Bank on sustainable hydropower. Several developers, investors and donors have also indicated their interest in contributing funding to environmental activities, either through market-based mechanisms and payments for ecosystem services, or via voluntary donations made as part of corporate environmental and social responsibility programmes.

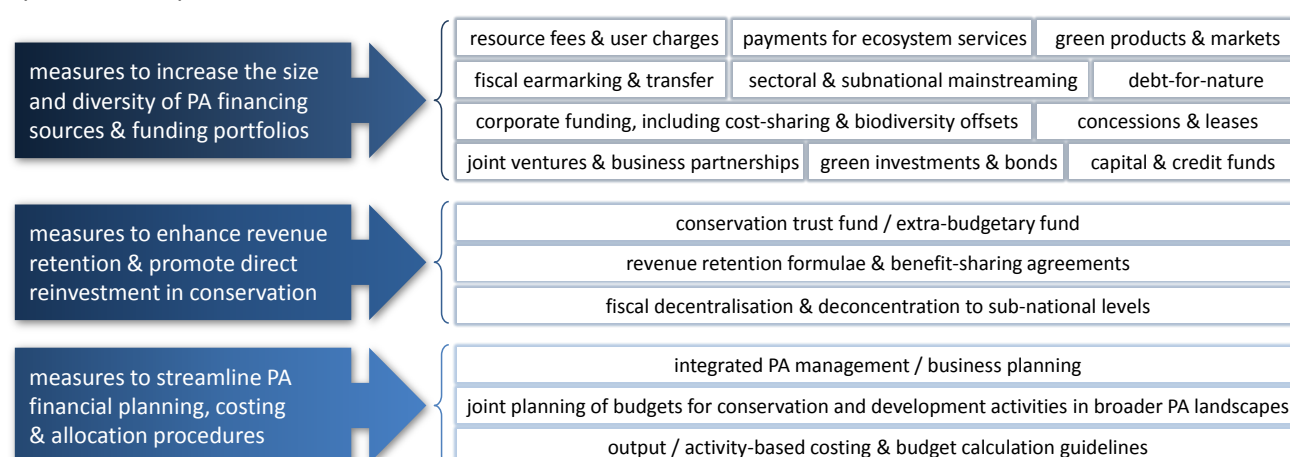
A sizeable (and rapidly growing) body of externally-funded conservation projects has been initiated over recent years, and a significant number of international organisations and domestic NGOs are involved in PA management in Myanmar. At least half of PAs and almost 90% of the national PA estate by area is currently being supported from external funding sources, with a portfolio that is currently worth around USD 20 million – a figure which looks set to increase still further in the future. These inflows of funding, in-kind contributions and technical assistance provide the opportunity to pilot, test and support the development of new funding mechanisms and innovative approaches to financial planning and administration .

## Potential areas for further follow-up, scoping and elaboration

Various policy instruments are available with which to address the financial constraints described above, which also respond to and build on the identified opportunities and strategic entry points. These are summarised below, with a view to providing a basis for further discussions with MOECF and other key stakeholders, during which those measures of the greatest interest, relevance and strategic importance can be selected for follow-up. The second deliverable output of the current assignment will then pick up on the prioritised themes and actions, elaborate concrete options for their further development, identify enabling conditions and requirements for implementation, and compile a framework and suggested actions for strengthening the financial sustainability of the PA system.

To these ends, three main categories of PA sustainable financing measures and instruments have been identified as having potential for further follow-up and development: those aiming to increase the size and diversity of PA financing sources and funding portfolios; enhance revenue retention and promote direct reinvestment in conservation; and streamline PA financial planning, costing and allocation procedures (Figure 16). It is important to note that all are closely linked, and mutually interdependent. The introduction of new revenue streams will, for example, need to be accompanied by the development of some kind of financial retention mechanism, if it is to result in a measurable improvement in PA funding. Similarly, the long-term viability of an extra-budgetary conservation fund depends on additional sources of income being made available by which it can be capitalised and maintained. Any effort to strengthen PA financial sustainability, including new arrangements for fund generation and administration, requires that current weaknesses and bottlenecks in PA financial planning and budgeting procedures are also addressed, so that the resulting funds can be allocated and managed effectively, strategically, and in direct support of biodiversity conservation.

Figure 16: PA sustainable financing measures and instruments with potential for further follow-up and development



Measures to increase the size and diversity of PA financing sources and funding portfolios are based on the introduction of additional income streams and revenue sources at national and/or site levels. As illustrated in Figure 16, a wide variety of mechanisms could in principle be used to generate funding for PAs, including market-based instruments (such as user fees, PES and green markets), enhanced allocations from the public budget (such as fiscal transfers, mainstreaming into sectoral and subnational and subnational budgets and debt-for-nature swaps), private sector engagement (such as donations, cost-sharing, biodiversity offsets, concessions and leases), and investment support (such as joint ventures, business partnerships, bonds, capital and credit funds). This list includes already-existing and emerging revenue sources which have the potential for further development and scaling-up (such as user fees, PES, corporate funding and joint ventures), as well as mechanisms which have proved successful in other countries but have not yet been tried in Myanmar. Potential follow-up actions revolve around identifying and testing the feasibility/acceptability of different financing mechanisms in a Myanmar context,

negotiating the modalities for their roll-out, piloting them at site and/or national levels, and developing supporting regulations, procedures and institutional structures.

Measures to enhance revenue retention and promote direct reinvestment in conservation are primarily targeted towards ensuring that a greater share of income is returned to PAs as direct funding. The primary mechanism by which to accomplish this would be to establish some form of permanent fund that could attract, absorb, retain, administer and allocate conservation financing beyond (and in addition to) the routine annual public budget process. Many different design options exist, ranging from full government management through to an independent external structure, incorporating various combinations of sinking, revolving and endowment fund aspects, and serving to channel funds to a variety of potential targets and beneficiaries. It will also be crucial to determine how such a fund should be positioned relative to (or even combined with) the proposed Environmental Management Fund and associated PES/REDD+ payment systems. It will also be necessary to identify appropriate revenue retention and benefit-sharing formulae, and investigate how improved revenue retention can be best accomplished in the light of the bigger-picture fiscal decentralisation and deconcentration processes that are currently ongoing in Myanmar. Potential follow-up actions revolve around assessing the feasibility of alternative design models and implementation modalities for the fund, including its scope and scale of operation, legal, financial and institutional basis, capitalisation and financial sources, and disbursement mechanism.

Measures to streamline PA financial planning, costing and allocation procedures deal with the need to ensure that improvements in the financial status of PAs enhance on-the-ground management effectiveness and delivery of conservation outcomes. The development of business plans as an integral component of PA management plans aims to match funding to conservation priorities, while the harmonisation of budgets for conservation and development activities in the broader PA landscape is seen as an opportunity to address the need to cover the opportunity costs of PAs and set in place effective conservation incentives and reward systems for local land and resource users. Meanwhile, output-based or activity-based costing is a way of ensuring that PA budgets reflect conservation needs, and are sufficient to cover the expenditures that are required to deliver on them. Potential follow-up actions revolve around the development of procedures and guidelines for integrated PA financial and business planning, and their piloting and roll-out at the site-level in collaboration with the local government administration.





## **PART II**

# **Options for sustainable financing**

## 5 Introduction

### Objectives, scope and content of the report

This document has been produced for the Wildlife Conservation Society (WCS) as part of a strategic review of protected area (PA) financing status, needs and options in Myanmar. The overall objective is to support the development of a sustainable finance strategy for the national PA network. It is also envisaged that the findings of the review will serve to guide the work of a National Sustainable Finance Working Group, to be established by the Forest Department (FD) of the Ministry of Environmental Conservation and Forests (MOECAF) and other government agencies during the course of the GEF-funded Strengthening Sustainability of Protected Area Management in Myanmar project.

This is the third of three deliverable outputs. The first report reviewed PA financing status, trends, constraints and opportunities (see accompanying report *Myanmar Protected Areas: assessment of financing status, trends, constraints & opportunities*). The second output was a presentation on the study findings. The current document elaborates concrete options and instruments for PA sustainable financing:

- Chapter 1 lays out the objectives and scope of the report, and provides a recap of the findings of the earlier review of PA financing status, trends, constraints and opportunities;
- Chapter 2 identifies different PA revenue and income sources and assesses their relevance and likely potential of for further development in Myanmar;
- Chapter 3 explores options to create a long-term PA funding mechanism, and examines its possible scope, role and architecture; and
- Chapter 4 identifies the enabling conditions and next steps for taking PA sustainable financing forward, and suggests a rough roadmap of actions to be undertaken over the short and medium term.

The report is based on meetings and consultations held between January and April 2015 in Nay Pyi Taw, Yangon and Bangkok. These involved government staff from MOECAF and other ministries, as well as representatives from a wide variety of bilateral and multilateral development agencies, NGOs, research and academic organisations working in biodiversity conservation and protected areas. A roundtable dialogue was held with high-level decision makers from MOECAF and MFAR to identify options and priorities for taking PA sustainable financing forward at national and site levels. An extensive literature review was also carried out, a critical analysis of experiences, best practices and lessons learned on the development and implementation of PA sustainable financing mechanisms in other ASEAN countries and beyond.

## Recap of key PA financing status, trends, constraints & opportunities

The first part of this assignment reviewed PA financing status, trends, constraints and opportunities. Its main findings and conclusions were that:

- PAs depend wholly on Union funds for core budget, supplemented by externally-funded projects. Even though the law permits a variety of PA revenues to be generated, few of these sources are actually utilised, and there are no systems in place that would allow PA income to be retained and reinvested in biodiversity conservation;
- Over the last five years, an average of USD 1.9 million a year or USD 43/km<sup>2</sup> has been spent on PAs. Union funds contribute 41% of this figure (an average of USD 0.8 million a year) and externally-funded projects account for 59% (USD 1.1 million);
- While the amount of public budgets and external funding allocated to PAs have risen significantly over the last 5 years, there remains a critical shortage of funds. Only just over half of PAs have a dedicated budget or staff, and most are unable to cover capital and recurrent costs, meaning that they cannot afford to deliver on essential on-the-ground conservation activities; and
- A very rough approximation of the likely magnitude of PA funding gaps, indicates a shortfall ranging from just under USD 0.5 million a year to extend current staffing and operational expenditure levels across the entire existing PA network, up to a maximum of almost USD 9 million a year to achieve a fully-staffed, improved management and expanded PA network scenario.

Ten particularly pervasive financial constraints to effective PA management are identified:

1. There is insufficient funding to cover core site-level costs and coordinate national-level PA activities;
2. Funding is distributed unevenly across the PA network;
3. Staff costs dominate public budgets;
4. PAs rely on a very narrow funding base and range of financial sources;
5. PAs revenues cannot be earmarked or retained;
6. Shortfalls in staffing limit the ability of PAs to request and spend funds;
7. Budget calculations lack flexibility, and key expenditure items are often under-costed;
8. PAs operate according to a short-term financial planning horizon;
9. There is a disconnect between financial planning and on-the-ground conservation needs; and
10. There are weak links to development planning and conservation incentives in broader PA landscapes

In turn, a number of recent shifts and emerging directions in Myanmar's institutional, policy, economic and investment context offer key opportunities and entry points for overcoming these barriers, including

- Existing and emerging legislation on environmental finance;
- The development by MOECAAF of new financial instruments and procedures;
- Ongoing fiscal reform and decentralisation processes;
- The opening of the economy to private sector and outside investors; and
- The presence of a large (and growing) number of externally-funded grants and projects in PAs.

Three categories of PA sustainable financing measures and instruments are identified and presented for consideration and possible follow-up by MOECAAF. These include mechanisms to:

- A. Increase the size and diversity of PA financing sources and funding portfolios;
- B. Enhance revenue retention and promote direct reinvestment in conservation; and
- C. Streamline PA financial planning, costing and allocation procedures.

The following chapters of the current report follow up on these findings, and further elaborate potential financing mechanisms and funding arrangements that could help to overcome the constraints and respond to the opportunities identified in the first report.

## 6 Relevance and potential of different PA revenue and income sources

*A wide range of innovative mechanisms for financing PAs have emerged over recent decades, and are now commonly used in other parts of the world. These aim to supplement conventional funding sources (such as government budgets and international grants) and diversify non-budget income streams, so as to make PAs more financially independent, stable and secure over the long-term. Twelve of the most commonly-used PA revenue and income sources are described below, and illustrated with real-world case studies drawn from ASEAN countries and elsewhere. A preliminary assessment is made of their likely feasibility and potential for further development in Myanmar.*

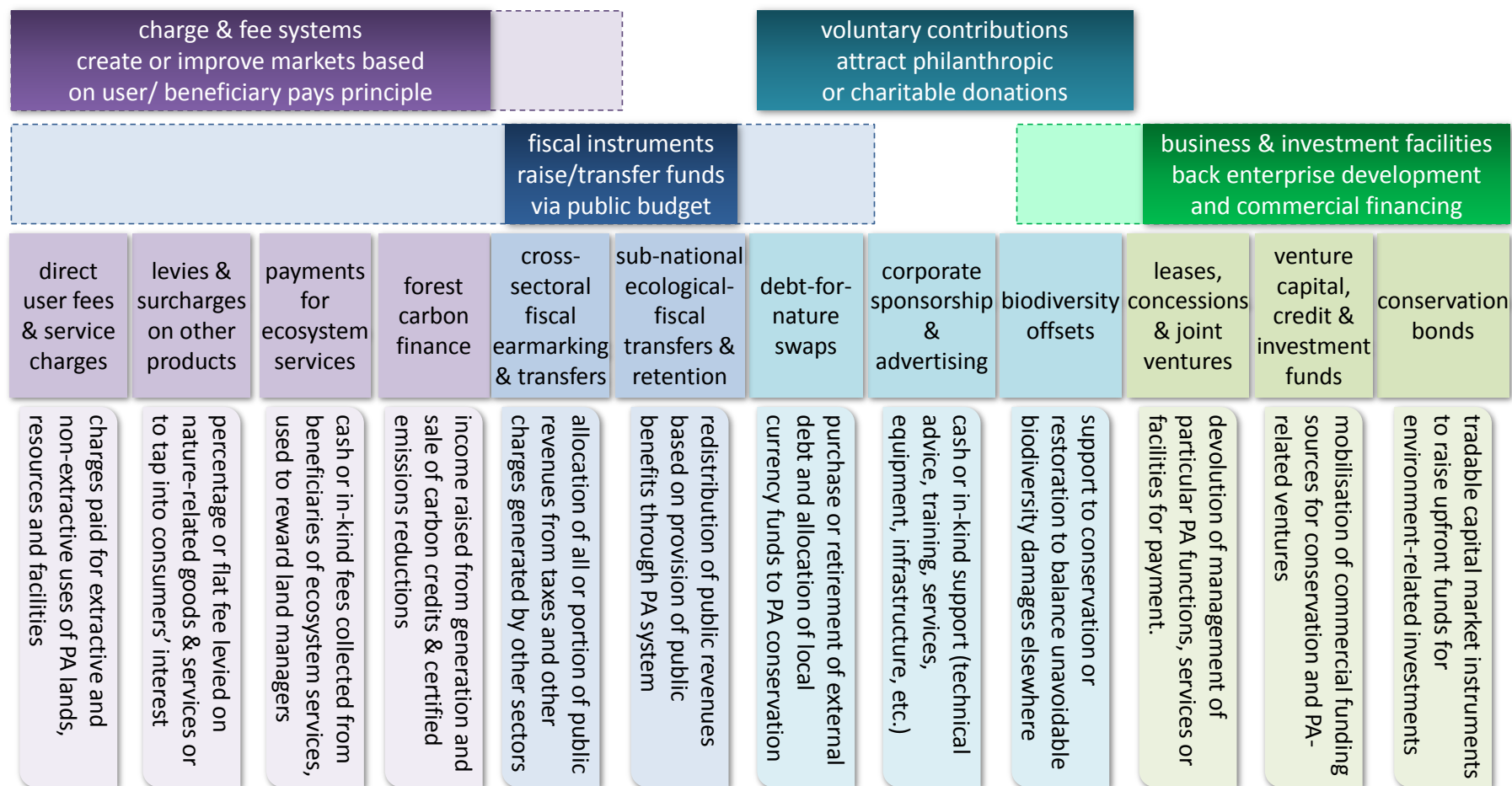
### Overview of possible PA fund-generation mechanisms

It is possible to distinguish twelve types of PA fund-generation mechanisms that have come into common usage in other parts of the world, and which may have potential for further development in Myanmar (**Error! Reference source not found.**). These can be grouped into four overlapping categories:

- Charge and fee systems which create or improve markets in PA goods or services, based on the principle of user or beneficiary pays;
- Fiscal instruments which raise and transfer funds through the public budget;
- Voluntary contributions which attract funding via philanthropic or charitable donations; and
- Business and investment facilities which back the development of enterprises and commercial financing agreements in support of PAs and biodiversity conservation.

This chapter is concerned primarily with identifying revenue and income sources that can be used to improve the funding status of NWCD and site-level PA authorities. It should however be noted that most of the fund-generation mechanisms described below serve a number of purposes, and have a number of possible targets in terms of both spending and recipients. In addition to providing funding for NWCD, they could, for example, function to mobilise funding for biodiversity and ecosystems in the broader landscape, share PA benefits and costs more equitably between different stakeholders, or provide conservation incentives for local communities and the private sector.

Figure 17: Categories of PA revenue and income sources



## Direct user fees and service charges for PA land, resources & facilities

In most parts of the world, user fees – especially for tourism and resource harvesting – have traditionally provided the majority of PA revenues. In Myanmar, a variety of charges can in principle be collected for the use of PA land, resources and facilities, including for entry, other recreational services, land rental and concessions, as well as for various extractive resource uses<sup>14</sup>. As well as generating income, user fees have the additional advantage that they can be employed to manage demand and optimise income from both economic and conservation viewpoints. In Kenya, for example, differential PA entry fees have for some time now been used as a tool to regulate visitor numbers, with more popular or fragile areas being priced relatively higher.

Many PA authorities have recognised that there is the potential to widen considerably the range of goods and service for which charges are levied. The Philippines Administrative Order 2000 on determining PA fees for instance served to expand the basis of PA revenue generation, allowing for the possibility for income to be generated from a wide variety of sources including entrance fees, charges for the use of facilities such as car parks and visitor centres, payments for services such as snorkelling, diving, swimming, boating, mountain climbing, trekking, picnicking, bird watching, filming and photography, as well as fees for resource harvesting, construction and aquaculture development, land rental and concessions. Diversifying the range of goods and services for which fees are charged can make a significant difference in terms of income generation and cost recovery. For example, even though New Zealand's Department of Conservation is not permitted to charge for entry into PAs, it is able to cover 15% or more of its annual budget from commercial concessions on tourism, agriculture and filming, as well as from income generated by the users of recreational facilities such as huts, trails and campsites. All of these rates are set at levels which will ensure full cost-recovery, and are regularly revised and updated in line with inflation (Phillips 2000).

As well as involving the creation of new fee systems, fund generation often involves improving existing markets and pricing structures. This is because, very often, charges are set so low that they neither accurately reflect prevailing prices, nor fully recover the costs of providing those services. Kenya's differential PA pricing was, for example, preceded by studies to assess tourist demand and willingness to pay, and looked at PA entry fees and service charges in neighbouring countries.

Bioprospecting fees are a special category of user charges that have emerged as a PA funding mechanism in several parts of the world, including – to a limited extent – in the ASEAN region. They usually include research fees and up-front payments for prospecting and collecting genetic materials, as well as royalties or profit-sharing on product discoveries. Perhaps the best-known example of bioprospecting fees being used to fund PAs is the agreement made between Costa

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<sup>14</sup> It should however be noted (as detailed in the review of PA financing status and trends, and addressed further below) that these revenues are not necessarily collected or administered by PA authorities.



Rica's National Biodiversity Institute (INBio) and the international pharmaceutical company Merck. Merck supports the strengthening of INBio's technical capacity, as well as sharing profits from any successful drug produced; INBio in turn provides a share of these revenues to protected area management (Zebich-Knos 1997).

Similar arrangements pertain within several ASEAN countries although in almost all cases the revenues are collected by science and technology institutes rather than by PAs or conservation agencies. For example, since the mid-1990s, Diversa Corporation has been granted bioprospecting rights across a wide range of natural habitats in Indonesia. As well as paying royalties for all of the discoveries which are developed commercially, the agreement specified setting up a centre for microbial diversity in Bogor Agricultural University. Along similar lines, Nimura Genetic Solutions Co. Ltd. has for more than a decade been working with the Forest Research Institute Malaysia and Sarawak Biodiversity Centre, focusing on the collection of microbes in rainforest habitats. It is estimated that, since 2000, the collaborating agencies have received payments totalling around USD 0.5 million from royalties and the donation of equipment and laboratories, while the total investment in Malaysia has exceeded USD 4 million (Nimura 2014). In Lao PDR and Viet Nam, partnerships between the University of Illinois at Chicago, the international pharmaceutical company Glaxo Smith Kline, the National Centre for Science and Technology and Cuc Phuong National Park in Viet Nam, and the Traditional Medicine Research Centre in Lao PDR have been attempting to operationalise ethical models for bioprospecting, involving benefit-sharing arrangements, technology transfer, capacity building, and community development (Soejarto et al. 2004).

User fees for the direct use of PA land, resources and facilities are considered to have **high potential** for further development in Myanmar. Charges for recreational activities and facilities currently seem to offer the greatest possibilities. Tourism represents a sector which is growing rapidly, where there is a demonstrated willingness to pay for nature-based goods and services, and for which a variety of fees are already enabled by law (and to some extent collected) in PAs. There is scope both to apply more widely these existing legal provisions, and to extend the range of services and facilities for which fees are levied.

Under current arrangements, bioprospecting fees are unlikely to offer a major source of income for PAs, and are thus considered to be of **low potential** as a PA funding mechanism. Evidence from other countries suggests that it has, in reality, yielded very little income for PAs or biodiversity conservation in all but a few cases. It is also not explicitly enabled by law as a source of PA funding, although in principle it is consistent with the collection of fees for "scientific research" functions. Perhaps most importantly, much of the bioprospecting that is currently taking place in Myanmar appears to be largely unregulated, and protocols in areas such as intellectual property rights, access and benefit sharing are still under development. It is considered that efforts would be better focused on financing mechanisms which have a more positive and dependable track record.

## Levies and surcharges on nature-related products & services

As well as collecting fees directly for the use of PA land, resources and facilities, several countries generate income from products, services and sectors that depend indirectly on the existence of PAs or the conservation of biodiversity. Revenues are generated by charging a surcharge or levy on the purchase of nature-related products and services, and earmarking the resulting income for PAs<sup>15</sup>. Travel and tourism products and services, in particular, often allow for various opportunities to generate income for PAs via surcharges and levies. In several sites in Asia, hotels located in and around protected landscapes or high biodiversity areas offer tourists the option of choosing to add a lump sum or percentage-based payment to their hotel bills, to be channelled into a biodiversity fund or to support local conservation and development activities. This system has already become institutionalised in other parts of the world. For example, most private and community conservancies in Eastern and Southern Africa levy a hotel surcharge or bednight fee. Across the twenty local conservancies and trusts included in Kenya's Northern Rangeland Trust, annual payments totalling more than USD 0.5 million are used to pay for rangers' salaries, educational bursaries and other ventures identified as a priority by local communities.

Another case of a voluntary levy collected through the travel and tourism industry is the "Change for Conservation" programme run by Hong Kong-based DragonAir (a subsidiary of Cathay Pacific). This collects donations of spare change from air passengers, which is used to fund conservation projects in mainland China. The imposition of voluntary or mandatory tolls on vehicles using roads that pass through PAs has also been identified as a funding mechanism in several parts of the region. For example, discussions are underway in Dong Phrayayen - Khao Yai World Heritage Site in Thailand and the Central Forest Spine landscape in Malaysia about the possibility of collecting fees or donations from travellers on the roads which traverse the PAs.

Examples also exist of premium pricing and branding systems being used to capture consumers' willingness for nature conservation via the sale of products that are otherwise unrelated to biodiversity or PAs. Several States in the USA for example offer vehicle owners the opportunity to generate payments for protected areas through their purchase of vehicle licence plates. For example, Minnesota's "Critical Habitat Plate" displays a picture of iconic local wildlife; the additional USD 30 fees are channelled to the Reinvest in Minnesota Critical Habitat Program for preserving important wildlife habitat and plant communities such as wetlands, prairies, old growth forests, and endangered orchid sites. Similar schemes operate via Nevada's "Conserve Wildlife" license plate, Maine's "Conservation and Support Wildlife" plate, and Ohio's "Conservation and Sportsman's" plates. During every month since 1983, a different country has released a set of legal tender WWF stamps that feature endangered wildlife and which, together with limited-edition first day cover envelopes, raise funding for conservation.

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<sup>15</sup> It should be noted that this category of funding overlaps with the fiscal earmarking and transfers discussed below; the main difference is that levies and surcharges obtain payments directly (and usually voluntarily) from the consumer or seller of the product, while fiscal instruments work through the taxes and fees collected via the government budget and are usually mandatory.

Similar schemes have been proposed (but not yet implemented) in Thailand to develop “marine life” postage stamps and vehicle licence plates as a means of funding for Marine National Parks. In both Europe and the USA, Airwick air fresheners offer a “National Parks collection” product range which involve a small donation to conservation in the PA which the purchased scent purports to smell like. WWF credit cards are also available in several European and North American countries, whereby the commercial issuing bank makes a small contribution to conservation on account opening, annual renewal, and as a percentage of all card purchases.

Levies and surcharges on nature-related products and services are considered to have **medium potential** as a PA funding mechanism. Although there is currently only a limited scope and market for levies and surcharges on conservation-related products and services in Myanmar, clear opportunities exist in the travel and tourism sector. Possible options for further investigation include voluntary bednight levies or surcharges at high-end hotels operating in and around protected landscapes, and efforts to collect spare change or other donations from passengers on Myanmar Airways International or private air companies.

## Payments for ecosystem services

Over the last two decades, payments for ecosystem services (PES) have become an increasingly popular mechanism for generating PA financing. They have already been identified as a priority in Myanmar, and the ECD is in the process of identifying possible models and requirements for developing a national system of PES. Like other user fees, PES are based on charging the users or beneficiaries of ecosystem services for the benefits (or costs avoided) they receive, but usually involve regulating services for which no prior market exists. PES are usually characterised as being voluntary transactions which relate to a well-defined environmental service or a land use likely to secure its provision, include at least one buyer and at least one seller effectively controlling service provision, and involve payments which are conditional on securing an agreed quality and/or quantity of the specified service(s) (Wunder 2007).

To date, the vast majority of PES schemes across the world have focused on the provision of watershed, biodiversity and landscape services in terrestrial (mainly forested) landscapes<sup>16</sup>. Although there is a growing interest in marine and coastal PES (Mohammed 2012) and payments for ecosystem-based disaster risk reduction (UNEP 2011), few if any examples exist of such schemes operating in practice. A variety of PES and PES-like schemes exist in ASEAN countries, although it is worth noting that, while a large number of current funding efforts are termed “PES” (probably reflecting the current popularity of the term and approach among conservation planners and donors) it is less certain that all can, strictly, be considered to be PES. Many are, in reality, just new ways of communicating and packaging traditional donor and international NGO project interventions, or providing subsidies to communities who live in or around high conservation value landscapes.

Viet Nam’s Payments for Forest Environmental Services programme is perhaps the most well-known example in the Asia region. This was first legislated as a pilot scheme in 2008 in Son La and Lam Dong Provinces before being extended to an additional fifteen Provinces with major watersheds and hydropower plants, and in 2010 was scaled up to the national level. Payments are made by large-scale commercial water users (such as hydropower, factories and urban supply facilities) and tourist companies, and channelled to forest owners either directly or via government-administered Forest Protection and Development Funds. In Malaysia, the Perak State Forestry Department has recently negotiated an agreement with a small hydro developer to institute PES in Typing Forest Reserve. The Reserve is a production forest, and the scheme is intended to compensate for the retirement of logging activities in the catchment area and reward for the provision of water quality and flow regulation services. The payment is set at 0.25% of profits, and is additional to the other fees paid by the developer to the Forestry Department such as land compensation charges for the area in which power lines will be constructed. The resulting revenues are to be shared between the Forestry Department and Perak State Treasury, according to an agreed benefit-sharing formula.

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<sup>16</sup> Carbon finance, covered in the section below, is usually considered as a separate category of conservation finance.

It is worth noting that, as well as providing a source of revenues for the government agencies that are mandated to conserve biodiversity, PES are widely (and in most cases primarily) used to provide conservation incentives for the communities that live in critical ecosystems. For example, a variety of PES schemes are under development in the buffer zone of La Peñablanca Protected Landscape in the Philippines which aim to encourage, enable and reward poor local villagers to reduce illegal timber felling and charcoal production, and to engage in more sustainable farming practices. Agreement has been reached with a local tour operator to share a proportion of revenues with the local community, and negotiations are underway with the water department in nearby Tuguegarao town to contribute funding (REECS 2008).

Payments for ecosystem services are considered to have **medium-high potential** as a PA financing mechanism in Myanmar. They have already been recognised to be a priority within MOECAP: a decision has been made to develop a national PES system, and ECD is beginning to look at possible implementation models, legal and institutional needs. There are also various opportunities for PES in PAs in major tourist areas, as well as those located in the watersheds which serve hydropower facilities, urban water supply schemes and other industrial water users. There may also be potential for developing marine and coastal PES, especially in relation to the fisheries habitat and productivity and coastline protection services provided by mangroves and coral reefs. It should however be noted that neither ecosystem services nor PES are yet explicitly mentioned in the laws governing PA management, and that considerable work needs to be carried out to establish whether other key requirements are in place (for example relating to contract law, property rights, and a willingness to pay on the part of ecosystem service beneficiaries).

## Forest carbon finance

Carbon finance can be considered to be a specific form of PES which (in the case of Myanmar and other developing countries) is based primarily on payments from the international community. Myanmar is in principle eligible to be the recipient of Clean Development Mechanism (CDM) projects, which allow for the generation of saleable emissions reductions from afforestation, reforestation and revegetation activities (including improved forest management). There is however currently only one registered CDM project in Myanmar – the Dapein Hydropower Project, and this does not relate to either afforestation or reforestation. The emergence of a REDD+ (Reducing Emissions from Deforestation and Forest Degradation) mechanism may also allow for PAs to generate revenues from the restoration, maintenance and enhancement of existing forest carbon stocks. A REDD+ Readiness Roadmap for Myanmar was produced in 2013, and, as yet, pilot projects are only in the very preliminary stages of discussion. No other voluntary carbon projects appear to be recorded or under development in the country.

Several ASEAN countries are using forest carbon finance as a source of funding for PAs and biodiversity conservation. In Malaysia, sales of carbon credits have been used to finance the

rainforest conservation on the eastern side of the Yayasan Sabah concession area, within the Ulu Segama Forest Reserve and contiguous with Danum Valley Conservation Area. The project involves retiring logging rights, and protecting and rehabilitating 25,000 hectares of degraded rainforest through planting indigenous tree species and undertaking sustainable forest management activities. So far, over 11,000 hectares of rainforest have been restored. The project has been validated, verified and registered under the Verified Carbon Standard scheme. In China, forest carbon finance is being used to regenerate degraded lands just to the south of Gaoligongshan Nature Reserve, with the aim of restoring wildlife habitat and creating a buffer zone between the nature reserve and surrounding villages. The project applies Climate, Community and Biodiversity Project Design Standards. About 2,000 local farmers contribute land and labour to the scheme and will own any income from forest products generated, while a commercial forestry farm has provided the main investment funds and is overseeing forest restoration and management activities and will own the carbon credits produced by the project.

Forest carbon finance is considered to be a PA financing mechanism with **low-medium potential** for further development in Myanmar. At the present time, CDM projects may also have only limited applicability, due to the complex (and often costly) requirements for design and registration. International voluntary carbon markets would currently appear to offer the most potential for generating PA funding – in particular the segment of the market which combines forest carbon with the generation of biodiversity, social and other co-benefits. However here, too, projects must be validated and verified according to accepted third-party standards, which require time, money and expertise to apply. Finding a buyer for the emissions reductions generated can also be difficult. The place of PAs in the emerging national REDD+ programme bears further investigation – although it should be noted that this is only in its very early stages, and it remains unclear as to whether viable REDD+ markets will in fact emerge either at a global level or in Myanmar

## Cross-sectoral fiscal earmarking & transfers

Fiscal instruments have long been used as a means of generating public revenues in other sectors of the economy, and over recent years have started to be used as a way of funding PAs. The most usual form of fiscal transfers is to allocate to PAs all or a part of the taxes and other income from products and services which use or impact on the environment. Although less common, there are also some examples of unrelated revenue streams being earmarked for PAs or nature conservation. As all public revenues are remitted to Union and State/Region Funds in Myanmar, at the moment no mechanisms exists for transferring fiscal revenues directly from other sectors to PAs (i.e. outside routine annual subventions to MOECF from central budget funds).

Several examples exist in ASEAN countries of environmental-fiscal transfers from sectors that depend on biodiversity or ecosystem services. For example, the Philippines Reforestation, Watershed Management, Health and/or Environment Enhancement Fund is enabled by the

Electric Power Industry Reform Act of 2001 as a mechanism for returning hydropower revenues to catchment conservation. It is managed by the Department of Energy, and funded via government-imposed "Social Responsibility" compensation from electricity generation companies levied at PhP 0.01 per kWh of production. These funds are then accessed by means of annual work plans submitted jointly by the hydroelectric power company and the local government to the Department of Energy. India's 2011 draft guidelines for ecotourism in and around protected areas, prepared by the Union Ministry for Environment and Forests, proposes a "local conservation cess" on private tourism activities near PAs to be levied as a proportion of total turnover tax, with revenues being earmarked fund protected area management, conservation and local livelihood development. In Belize, all air, land and sea travellers are required to pay an international departure tax of USD 39.25, of which USD 3.75 is designated as a conservation fee and paid into the national Protected Areas Conservation Trust fund.

There are few, if any, regional examples of fiscal transfers from products and services that have only an indirect link to nature conservation, or are not related to it at all. Cases do however exist in other parts of the world. In the United States, 10% of tobacco tax revenues in California is earmarked for parks and wildlife habitat conservation, Missouri's 0.05% tax on sales of personal property and retail services is allocated to the Department of Conservation, and both the Nebraska Environmental Trust Act and the Great Outdoor Colorado programme are financed through earmarked state lottery funds. Along similar lines, the UK Heritage Lottery Fund provides almost USD 0.6 million a year to fund nature conservation and cultural heritage projects in the UK. In 2014, more than USD 1 million was provided from Dutch Postcode Lottery funds to support seven PAs in Africa and around USD 20 million was provided by the Dutch and Swedish postcode lotteries to the Peace Parks Foundation to protect rhinos.

Fiscal earmarking and transfers is recommended as a PA financing mechanism with **medium potential** for further development in Myanmar. There are many taxable products and services which are linked to PAs, biodiversity and ecosystems, that do not currently contribute towards biodiversity conservation. It is however important to note that the principle of cross-sectoral fiscal earmarking transfers to some extent contradicts the government's current stated policy of centralised budget allocation and public financial management. Ongoing public sector financial reforms, including fiscal decentralisation, may however allow for such arrangements to emerge. Earmarking is also broadly in line with the principle of user pays, which is already established as a basis for nature conservation and environmental financing in Myanmar.

## Sub-national ecological-fiscal transfers & retention

Several countries now operate systems whereby public revenues are redistributed from national and subnational to local levels, with the aim of helping lower-tier governments cover the expenditures required to provide nature-related public goods and services. They usually target regions which contain a especially large area under protection, host biodiversity of exceptional significance, or provide particularly valuable ecosystem services to other sectors and parts of the

country. Although there is no precedent for ecological-fiscal transfers to the subnational level in Myanmar, regular transfers of funds already take place from Union funds to Regional and State-level budgets.

One of the earliest examples of ecological-fiscal transfers is provided by Brazil's ICMS Ecológico or 'Ecological Value-Added Tax'. Since the early 1990s, the Federal Constitution has allowed for 25% of the revenues from a tax imposed on the circulation of goods, services, energy and communications to be allocated to municipalities. Of this share, 75% is distributed according to an index of municipal economic output, and the remaining quarter is allocated according to criteria defined by each state. A growing number of states are basing these criteria on environmental characteristics, and using fiscal revenues to compensate for land-use restrictions associated with conservation. In the State of Paraná, for example, five percent of municipal tax share is allocated based on watershed and biodiversity conservation areas. Fiscal transfers to municipalities are determined by indices which consider the size of the protected estate, the size of the municipality and PA management categories, as well as a PA "quality index" (May et al. 2002). A similar system operates in Portugal, where the proportion of land under protection is used as an indicator in the allocation of lump-sum transfers to local governments based on the provisions of the Local Finances Law 2007. Transfers per hectare are higher if protected area coverage in relation to municipal area is beyond 70% (Ring et al. 2011). Similar systems have been proposed (but not yet implemented) in Indonesia (Mumbunan et al. 2012) and India (Kumar and Managi 2009).

Decentralisation and local-level retention of PA revenue collection provides another model for sub-national ecological-fiscal transfers, whereby central government waive the requirement for a PA to remit revenues to the national treasury and allows all or some of the income earned to remain at the site level. Under these arrangements, retained revenues are often shared three ways between the PA managing authority, local administration and/or adjacent communities. In Indonesia, for example, the national decentralisation policy of 1999 provided an opportunity to grant Bunaken National Park 'pilot project' status. This allowed for the PA to determine the level at which user fees would be set and to keep the resulting revenues (rather than follow the normal system of remitting all revenues to central government). In 2001 an entrance fee system was introduced, with the proceeds being shared 80% with the National Park Management Advisory Board for management and conservation activities and 20% with local government, including using just under a third of revenues to fund a small grants programme for each of the villages in the park (Erdmann et al. 2003).

In Thailand, National Parks are permitted to retain up to fifteen percent of self-generated revenues at the site-level (for example from concessions, fines and penalties, accommodation charges, entry fees, charges for the use of recreational facilities and donations). Another half can also be transferred back to the PA if a proposal is prepared and submitted to the Department of National Parks Headquarters. The remaining funds are retained at the central level for allocation to other PAs (20%), used to cover unforeseen or emergency expenses (10%), and allocated to the administrative authorities around PAs (5%).



Sub-national ecological-fiscal transfers are recommended as a PA financing mechanism with **medium potential** for further development in Myanmar. If current processes of deconcentration and decentralisation in environmental management continue (for example via township-level Forest Departments and subnational Environmental Conservation Departments, and even via the possibility of increased Region/State roles in terms of biodiversity conservation and PA management), ecological-fiscal transfers arrangements may be warranted, or even required.

## Debt-for-nature swaps

Under debt-for-nature swap arrangements, external government debt is purchased from the creditor (usually by a development donor or international NGO, but sometimes as a bilateral swap or debt-forgiveness agreement between governments) at a discount, and retired. In exchange, the debtor government commits to allocate local currency funds to conservation activities such as PAs. Over the 1990s and early 2000s, large sums of money were mobilised for biodiversity conservation and PAs via debt-for nature swaps: by 2010, more than USD 1 billion had been generated, for almost 40 countries (Sheikh 2010). Debt-for-nature swaps most commonly involve government-to-government lending, but there are also some examples of countries seeking to reduce their commercial debt burden in return for conservation funding.

There are several examples in the ASEAN region and other Asian countries of the use of debt-for-nature swaps to fund the establishment or ongoing management of national PA systems or other areas of exceptional biodiversity and ecological significance. Two debt-for-nature swaps between the US government and the Philippines in 2002 and 2013 have generated almost USD 40 million for conservation. The funds have been used for a variety of purposes, including supporting the establishment of El Nido Marine Sanctuary on Palawan Island. In 2009, a bilateral deal was signed between the US government and Indonesia, swapping nearly USD 30 million of government debt over the next eight years against Indonesia's commitment to spend this sum on NGO projects benefiting Sumatra's tropical forests. In 2011, a second swap was negotiated for almost USD 28.5 million, with the funds being used to provide grants to protect and restore tropical forests in Kalimantan. A deal between Bangladesh and the US government, also brokered under the provisions of the US Tropical Forest Conservation Act, made more than USD 8.5 million available in 2003 for forest conservation activities.

Debt-for-nature swaps are considered to have only **low potential** for further development in Myanmar. This is because, since 2010, much of Myanmar's external debt has already been reduced, renegotiated or cancelled. By 2013, debt arrears to the World Bank and Asian Development Bank had been cleared or restructured with the help of the Japanese government, and nearly half of the money owing to Paris Club creditors had also been written off, with the remainder to be rescheduled over 15 years.

## Corporate sponsorship & advertising

While external funding to PAs has traditionally been dominated by international development assistance and support from non-government organisations, both the scope and scale of donations from the private sector has been steadily increasing over the last decade or so<sup>17</sup>. To date, much of this funding has been provided under the auspices of corporate environmental and social responsibility (CESR) programmes. While in some instances this involves making regular, long-term donations of funds to a particular site or species, in other cases PAs have been able to access one-off support for a particular piece of equipment, infrastructure or facility – often providing recognition or advertising to the company who has donated the funds. Although corporate sponsorship is not yet widespread as a model for funding PAs in Myanmar, one working example is the support provided to Taninthayi Nature Reserve by Motamma Gas Transportation Company, Taninthayi Pipeline Company and PTT Exploration and Production. Corporate conservation funding arrangements with the tourism sector are also under development in Lampi Island Marine Park. It is reported that a hotel investor is planning to establish a foundation to support community-based projects and conservation activities in the locality, funded from corporate contributions.

Several other examples of corporate support to PAs exist in the ASEAN region. In Viet Nam, Holcim Ltd. (a global company specialising in the manufacture and distribution of cement and aggregates) has committed to provide around USD 1 million to preserve and restore the ecological system of Kien Giang province and Kien Luong district, one of three core zones of UNESCO Man and Biosphere Reserve. Activities include the protection of important karst landscapes and conservation of endangered species, namely the Silvered Langur and Sarus Crane. A framework agreement with the Kien Giang Provincial People's Committee and the Kien Giang Union of Friendship Organizations has also been established to provide a platform to engage local authorities in the Province where Holcim's Hon Chong plant is located. Training programmes for local residents have been developed, and feasibility studies have been carried out to determine the feasibility of community-based eco-tourism in nearby cave areas.

The Holcim Viet Nam case is relatively unusual in that it involves at least part of corporate conservation funding being provided through an agreement with local government. In most (although not all) cases, financial resources are channelled through a third-party organisation, rather than being provided as direct budget support to government – usually a well-established local or international NGO. For example, in Tram Chim National Park in Viet Nam's Mekong Delta, WWF plays a central role in managing Coca-Cola's funding to habitat conservation and restoration activities in and around the PA. Several streams of corporate funding to biodiversity and PAs in Malaysia are also managed by WWF, including agreements with AEON Co Bhd and Senheng Electric Sdn Bhd to help in reforestation and rehabilitation at North Ulu Segama Forest Reserve in Sabah, a partnership with Nestlé Malaysia to support conservation efforts in the Setiu

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<sup>17</sup> This section deals with charitable contributions to PAs from the private sector. Offsets, commercial and business arrangements are discussed further below

Wetlands in Terengganu, and the Honda-WWF “Rhino Rescue” project in Peninsular Malaysia and Sabah.

Another model of corporate funding which has had some success in other parts of the world (although does not appear to have yet been applied in Asia) is when PAs offer the use of their logo, at a fee, to signify that products or services produced in the locality are environmentally friendly. In Russia, for example, local agricultural products are marketed using the officially-registered logo of Katunsky Biosphere Reserve. Another example of PA funding being generated via product branding is provided by Germany’s Krombacher beer. Here, a targeted marketing campaign was carried out, promising “with every case of Krombacher Pilsner you buy in the future, you’ll be saving a square metre of African rain forest” (later toned down to “you enjoy – we donate”). In 2003 this provided the start-up funds for endowing the Sangha Rainforest Foundation, a trust fund financing the operation of three transboundary PAs in Central Africa: Dzanga Ndoki in the Central African Republic, Nouabalé Ndoki in the Republic of the Congo and Lobéké in Cameroon. Almost USD 5 million has been raised and invested in PA conservation since the start-up of the campaign.

Corporate sponsorship and advertising is considered to have **high potential** for further development in Myanmar. It has the ability to provide an immediate and flexible source of funding which does not require the development of additional legislative or institutional arrangements, and – subject to interest and willingness from the private sector – is usually relatively simple to implement. There are clear opportunities to extend the model established in Taninthayi Nature Reserve to other PAs. As Myanmar’s economy continues to open up to international investors (particularly in the oil, gas, minerals, hydropower, infrastructure and tourism sectors), there appears to be a growing interest among some of these companies in developing corporate environmental and social responsibility initiatives which involve providing support to wildlife and biodiversity conservation. In addition to CCSR funding, there would also seem to be potential to develop more market-oriented support arrangements based on sponsorship, advertising and (for example in relation to tourism) use of PA logos or brands.

## Biodiversity offsets

Biodiversity offset funding aims to balance or compensate for unavoidable damages to biodiversity that arise as a result of development activities. They usually involve investing in the rehabilitation or conservation of equivalent resources or habitats to those which have been damaged or destroyed at another site. The aim is to ensure ‘no net loss’, and preferably a net gain, of biodiversity. Offsets are usually pursued as a last resort, only at the end of the mitigation hierarchy, after on-site environmental harm has been reduced and alleviated as much as possible – and are typically carried out voluntarily, in addition to legal and regulatory environmental compensation requirements. While biodiversity offsets can, in principle, be applied to any activity that impacts on natural habitats, they most commonly involve extractive

industries (such as, oil and gas, mining and commercial forestry), large-scale hydropower, construction and infrastructure developments.

Some of the earliest, and most enduring, international examples of biodiversity offsets being used to fund PAs have arisen from oil pipeline developments. The Chad/Cameroon Development Project, run by a consortium of three oil companies – ExxonMobil, Chevron and Petronas – provided funding to create Mbam-Djerem and Campo-Ma'an National Parks in Cameroon. At almost 7,000 km<sup>2</sup>, these PAs cover an area many times the size of the area impacted by the oil pipeline (Bisseck 2003; ten Kate et al. 2004). Where it has not been possible to avoid adverse environmental and social impacts from the Baku-Tbilisi-Ceyhan (BTC) oil pipeline, biodiversity offsets have been used to fund nearby PAs. For example, where the pipeline has been unavoidably routed through a forested area the area of forest removed is being recreated at a nearby location, and special mitigation and restoration measures have been set in place survival and propagation of rare floral species in order to compensate for losses to Tetrtskaro Primary Forest Fragments in Georgia. In addition, funding has been allocated to sponsor the development of a Strategic Environmental and Cultural Plan for Gobustan Cultural Reserve and the proposed Gobustan National Park in Azerbaijan, for management planning in Ktsia-Tabatskuri Managed Reserve in Georgia, and in Turkey's Posof Wildlife Protection Area and Sarikamis Natural Site Area (IPIECA/OGP 2007).

No biodiversity offsets are yet operating in Myanmar, and the concept is as yet still emerging in other ASEAN countries. Several 'offset-like' arrangements are underway. For example, in Thailand, the Siam Cement Group is working with the Ministry of Forestry and Kasetsart University to carry out an active corporate environmental and social responsibility programme which includes biodiversity offsets. These mainly involve the rehabilitation and revegetation (using local species) of limestone quarries and surrounding areas. In Lao PDR, both the Nam Theun 2 and Theun-Hinboun Expansion hydropower projects are piloting mechanisms for sharing revenues or investing funds in environmental management. The World Bank-funded Lao Environment and Social (LEnS) project was designed as a complementary activity to the Nam Theun 2 project, including social and environmental activities to address the cumulative impacts of river basin development in the Nam Theun-Nam Kading river basin. In addition, the Nam Theun 2 project has undertaken to provide direct funding for the Nakai-Nam Theun Watershed Management and Protection Authority of USD 1 million a year for the duration of the concession period (31 years), including funds for management of Nakai Nam Theun NPA and two corridor areas.

Biodiversity offsets are considered to have **high-medium potential** for further development in Myanmar. A number of large international oil, gas, minerals, hydropower, infrastructure and construction projects are currently under development, which will inevitably impact heavily on biodiversity and natural habitats. Several of these are being financed via bilateral and multilateral aid programmes or development banks, or are being carried out by companies, which have been involved in offset arrangements in other parts of the world. There may be opportunities to negotiate biodiversity offset funding as part of these concession arrangements, development plans and financing agreements. It should however be noted that there are a

number of risks inherent to embarking on biodiversity offset programmes. In particular, the developments with which offset funding is associated are often controversial in terms of their social and environmental impacts, and can give rise to considerable reputational risks for those involved.

## Leases, concessions & joint ventures

While there is little doubt that the government has both the mandate and the duty to manage PAs on behalf of the Myanmar population, and in the public interest, there is no reason why NWCD should have the sole responsibility for managing PA facilities and services – especially those that have the potential to be operated on a commercial basis. In some instances these can be more effectively and efficiently run by the private sector, NGOs or local communities, and in other cases these organisations are willing to contribute towards key conservation activities such as patrolling, monitoring or research. Obviously, government has a key role to play in managing, overseeing, regulating and monitoring these activities, and ensuring that they are carried out in ways which are consistent with conservation policies and principles. Several countries have now developed formal arrangements for the devolution or collaborative delivery of key PA management functions, and have as a result generated significant new funding and/or cost-savings. In Myanmar, joint ventures between the government and private companies to operate zoological and botanical gardens is enabled under the Protection of Wildlife and Conservation of Natural Areas Law 1994. The Htoo Group company (via its subsidiary Htoo Zoos & Garden Business Unit) has a management contract with the Forest Department to run Hlagwa Park, Pyin Oo Lwin Botanical Garden, Nay Pyi Taw, Yadanabon and Yangon Zoological Gardens. Further arrangements for the development of private sector concessions and funding arrangements are also currently being considered as part of the emerging ecotourism management strategy (ICIMOD 2015).

In most Asian countries, the management of PA services and facilities is still closely controlled by government, and there are as yet few examples of external actors being involved in any capacity beyond limited concessions or land rentals to operate tourist enterprises. Other parts of the world however yield some interesting cases where private companies or non-government actors have assumed certain PA management responsibilities, or are managing particular services and facilities under commercial contracts, concessions or leases. In Slovenia, the Nature Protection Law allows for PAs to be managed via commercial management concessions and stewardship agreements run by companies or NGOs. The management of the Nature Reserve Škocjanski has, for example, been entrusted to the biggest nature protection NGO in Slovenia, while the company, SOLINE Pridelava Soli d.o.o, is managing Secovlje Salina Nature Park (Sovinc 2005). Similar arrangements pertain in the Seychelles, where the National Protected Area Policy provides for PAs to be put under the administration of a number of different government agencies, parastatals and NGOs. The country's formally-designated PAs are currently managed by a wide variety of organisations, including the Seychelles National Parks Authority, Ministry of

Land Use and Housing, Seychelles Fishing Authority, Seychelles Islands Foundation, Island Conservation Society and Nature Seychelles.

In South Africa, South African National Parks (SANParks) have made the decision that all tourism and related commercial ventures should be undertaken by the private sector, charging market prices. Eleven tourist concessions have been awarded to private operators, seven in Kruger NP, two in the Addo Elephant NP, and two in the Cape Peninsula NP. In addition, an agreement has been reached with a private company to manage the only hotel in SANParks' portfolio, in Golden Gate Highlands NP. These arrangements have stimulated considerable new funding. Private investment in new facilities is already estimated at over USD 35 million, and the total income to SANParks over 20 years is forecast at more than USD 90 million (Fearnhead 2003). Increasingly, public PA networks are also being supplemented and enriched through the establishment of nature reserves or conservancies on private and communal lands, sometimes under formal agreements or contracts with government. While these arrangements are less common in Asia, they have become relatively widespread across much of Africa, the Americas and Europe. Private and community managed nature areas currently cover an area more than three times as large as statutory PAs in South Africa (Cousins et al. 2008). In Chile, private purchases or donations of forest land for protected areas amount to well over 4,500 km<sup>2</sup> and in Namibia community-managed conservancies cover around half of the country's protected areas (Emerton et al. 2006), while more than half of Kenya's PA estate is located on communal and private lands (Elliott et al 2014).

Leases, concessions and joint ventures are considered to have **medium-high potential** for further development in Myanmar. The main area for development is likely to be in relation to the operation of tourist facilities and services, including both public-private partnerships and cooperative agreements between MOECF and State/Regional governments. These kind of arrangements are already enabled by law, have some precedent in practice, and have already been prioritised as part of the draft ecotourism strategy. There may also be potential for formalising current and emerging arrangements which share in (and to some extent devolve) PA management responsibilities to non-governmental organisations, including the participation of local communities. Because the land policy is still under review and community-based natural resource models are still emerging, there currently seems to be only low potential for investigating the establishment of private or community-run conservancies or PAs.

## Venture capital, credit & investment funds

A variety of mechanisms exist which are targeted towards mobilising investment capital or credit for conservation and PA-related ventures. While most of these facilities operate on a commercial basis, some provide funding on preferential or concessional terms. A number of examples exist of biodiversity-based venture capital and private equity funds operating in the USA and Latin America. One of the most longstanding funds is the EcoEnterprises Fund, established in 1998 as a venture capital fund targeting community-based sustainable businesses

in rapidly expanding environmental sectors such as organic agriculture, ecotourism, sustainable forestry, and non-timber forest products. Ecosystem Investment Partners is a private equity management firm established in 2006 to acquire conservation properties and generate investment returns through utilising wetland, stream and endangered species mitigation opportunities in the United States. The Amazon Carbon and Biodiversity Investment Fund is run by Bio Assets, the successor of a large Japanese forestry company, and focuses on investing its own capital and attracting third party capital into developing and implementing carbon, biodiversity, renewable energy and biofuels projects in Brazil.

No such funds currently operate in Myanmar. In other parts of Asia, too, investment facilities targeted at biodiversity-related investments remain relatively scarce. One large private equity vehicle, the Eco Products Fund (currently accounting for investments of around USD 100 million in ecosystem service markets, mainly in the USA) has a limited international allocation which includes the Malua Biobank in Malaysia (described below). EcoAsia, established in 2012 and operating out of Thailand and Hong Kong, is a private equity fund targeting sustainable agriculture and related land ventures, but appears to as yet not have developed a funding base or investment portfolio. The Asian Conservation Company, established in 2001, holds a portfolio of private equity investments that conserve biodiversity. To date, the portfolio remains limited: ACC has raised just USD 12 million and invested in only three projects – a sustainably managed fishery, an ecotourism venture, and a transportation company serving the ecotourism project.

Venture capital, credit and investment funds are currently considered to have **low-medium potential** for further development in Myanmar at the current time. MOECA is not a State-owned economic enterprise, cannot take out loans, and is limited in the extent to which it can operate on a commercial basis or form partnerships with the private sector. The main opportunity would seem to lie in investigating possibilities to mobilise capital and credit to support private sector investments in PAs and biodiversity conservation, and to accompany the development of possible leases, concessions and joint ventures.

## Conservation bonds

‘Green’ or ‘conservation’ bonds have recently emerged as a mechanism with which to mobilise finance for environment-related investments. Like more conventional bonds, they are tradable capital market instruments issued by sovereign governments, states, municipalities or corporate entities to raise upfront funds, backed up by the promise to repay the investor the value of the bond plus periodic interest payments. They may be used either to finance government activities, or to provide capital for private sector ventures.

A number of green bond issues have taken place in Asia over the last year or so. Most target climate-related projects in the energy, transport, construction and technology sectors. For example, in 2014, the Export-Import Bank of Korea issued a USD 500 million green bond, intended to be used to finance low carbon and climate resilient growth projects. Last month, the

first green bond was issued in India by Yes Bank, with a maturity of 10 years and a subscription value of USD 80 million. The funds raised will be used to finance renewable energy projects. The Chinese government has also recently committed to developing a corporate green bond market. ADB's inaugural issue of 10-year green bonds in 2015 raised USD 500 million with which to fund a variety of climate adaptation and mitigation projects in developing Asia. The bonds are lead managed by Bank of America Merrill Lynch, Morgan Stanley, and Skandinaviska Enskilda Banken; just under two thirds went to fund managers, pension funds and insurance funds, around a quarter to banks and 16% to central banks and official institutions.

There has been much discussion over recent years about the use of 'forest bonds' to finance biodiversity and ecosystem conservation. Most proposals envisage capturing investment funds from institutional investors such as pension funds and insurance companies, in return for a steady stream of revenues from sustainable timber operations, ecotourism, carbon sequestration and other ecosystem service markets. However, as yet, there are no actual instances of such bonds being issued or having successfully been used to generate funds for conservation. Perhaps the closest example is the Malua BioBank in Sabah, Malaysia, a joint venture between the Eco Products Fund (a US-based private equity fund) and the government of Sabah which has the objective of creating a commercially sustainable model for large-scale rainforest conservation and restoration in Malua Forest Reserve through the retirement of logging concessions. . To finance its operations and to endow a trust fund, the BioBank issues and sells Biodiversity Conservation Certificates, with each USD 10 certificate representing 100 square meters of rainforest restoration and protection. Yet, although this example shares several similarities with the idea of using conservation bonds to raise capital for ecosystem investments, a key difference is that Malua's certificates are not as yet designed to yield any direct financial return for the purchaser.

Conservation bonds are considered to have **low potential** for further development in Myanmar at the current time. The major reason for this is that no workable model of using conservation bonds to raise capital for biodiversity and ecosystem conservation yet exists. Although in principle such bonds could be issued either through the Treasury or via corporate entities (including Myanma Timber Enterprise), it is not certain either whether there would be a market for such bonds, or whether it would be possible to generate a sufficient financial return to make them attractive to investors. In addition, Myanmar currently has extremely small equity and debt markets: banks are the primary buyers of Government Treasury Bonds, and only a few national companies sell bonds privately on a very small scale. The 2013 Securities Exchange Law does however allow for the establishment of an over the counter market in securities trading, and opens the door towards the development of an equity market.



## Conclusions on revenue & income sources with the greatest potential for further development in Myanmar

Of the twelve PA revenue and income sources assessed in this chapter, eight are considered to have the greatest potential for further development in Myanmar (Figure 18):

- Direct user fees and service charges, and corporate sponsorship and advertising are identified as having high potential. Both are explicitly enabled by law, and are already under operation in Myanmar. The main opportunity lies in expanding the scope and scale of these arrangements, extending the range of sites in which they are applied, and rationalising fee levels in line with market prices and to consumer willingness to pay;
- Payments for ecosystem services, biodiversity offsets and leases, concessions and joint ventures are identified as having high-medium potential. While only the latter is currently mentioned in the law, all have been prioritised by MOECF for development, and work is already underway on identifying legal and operational modalities for their implementation. All respond to opportunities and interests associated with the recent opening up of the economy to outside investments, especially ongoing developments in the tourism, infrastructure and extractive industries sectors; and
- Voluntary levies and surcharges, cross-sectoral and sub-national fiscal transfers are identified as having medium potential. All of these instruments tap into existing revenue streams, and do not require the development of new markets, products or services. Although earmarking and retention is not wholly consistent with the government's current stated policies, ongoing public financial management reforms and decentralisation/deconcentration processes open the door to the possibility of these kinds of arrangements becoming viable in the near future.

Figure 18: Possible PA revenue and income sources, assessed potential and additional co-benefits

revenue/income source	description	potential	additional uses / co-benefits
direct user fees & service charges	charges paid for extractive and non-extractive uses of PA land, resources and facilities		can also be used as a tool to manage the demand for PA land, resources and facilities
levies & surcharges on other products	percentage or flat fee levied on nature-related goods & services or to capture consumers' interest in conservation		
payments for ecosystem services	cash or in-kind fees collected from beneficiaries of ecosystem services, channeled as rewards or compensation to land & resource managers		often serve the purpose of rewarding or compensating local communities for the provision of valuable ecosystem services
forest carbon finance	income raised from generation and sale of carbon credits & certified emissions reductions		
cross-sectoral fiscal earmarking & transfers	allocation of all or portion of public revenues from taxes and other charges generated by other sectors		work entirely within the public budget system
sub-national ecological-fiscal transfers & retention	redistribution of public revenues from central to subnational level based on provision of public benefits through PA system		
debt-for-nature swaps	purchase or retirement of external debt and allocation of equivalent local currency funds to PA conservation		typically able to mobilise relatively large amounts of funding provide a means of stimulating external participation and cost-sharing in PA management
corporate sponsorship & advertising	cash or in-kind (technical advice, training, professional services, equipment, infrastructure, etc.) contributions to PAs from companies		
biodiversity offsets	support to species & habitat conservation or restoration to balance or compensate for unavoidable biodiversity damages caused elsewhere		
leases, concessions & joint ventures	devolution of management of particular PA functions, services or facilities to external agencies with payment and/or profit share.		
venture capital, credit & investment funds	mobilisation of commercial funding sources for conservation and PA-related ventures		
conservation bonds	tradable capital market instruments to raise upfront funds for environment-related investments		

## 7 Possible scope, role and architecture of a long-term PA fund

*In addition to an over-reliance on a limited range of funding sources, short-term financial planning horizons, a disconnect between financial planning and on-the-ground conservation needs, and weak links between development planning and conservation incentives in the broader landscape, one of the major barriers to PA financial sustainability in Myanmar is that there is currently no mechanism by which revenues and income can be retained and reinvested in biodiversity conservation. This chapter evaluates the potential to create a long-term funding mechanism such as a conservation trust fund in order to assist in overcoming these constraints, and to widen the diversity and depth of both PA funding sources and targets. It reviews experiences of conservation funds in other Asian countries, and assesses options for Myanmar.*

### The need & rationale for developing a long-term PA fund

Over the last two decades or so, PA funds have been established in many countries and sites across the world. More than 70 conservation trust funds are currently recorded to exist or be under active development across Africa, Asia, the Caribbean, Eastern Europe, Latin America and Oceania (Mathias and Victurine 2013), in more than 50 countries (Spergel and Taïeb 2008). Developing a long-term fund (or funds) in Myanmar could assist greatly addressing the barriers to PA financial sustainability. The main purpose would be to attract and retain a more diversified funding portfolio than is currently the case, thereby ensuring a secure, stable and targeted flow of financial resources which would supplement existing Union budget allocations and externally-supported projects.

Many of the income sources that have been identified as having potential for Myanmar (see above, Chapter 6) cannot be administered via the government's routine annual budget allocation process or through mainstream donor projects. In other cases, potential donors and investors may not be willing to utilise such mechanisms. Perhaps most importantly, a dedicated fund would overcome the problem that PA revenues cannot currently be retained, earmarked or directly reinvested in biodiversity conservation. In these instances the establishment of a long-term PA fund would be a necessity, as without such a mechanism the introduction of new revenue and income streams would likely have little or no impact on PA funding, financial sustainability or, ultimately, management effectiveness

It is also useful to recognise that – depending on how it is designed – a fund could also play a key role in tackling many of the other PA financial constraints that have been identified for Myanmar (as outlined in the accompanying report *Myanmar Protected Areas: assessment of financing status, trends, constraints & opportunities*). It can, for example, ensure that funds are managed in an accountable and transparent manner, facilitate flexible, coordinated and long-term

approaches to planning, promote greater stakeholder participation, and ensure that the full range of PA conservation costs and cost-bearers are compensated.

It is important to note at the start of this chapter that a permanent PA funding mechanism already exists in Myanmar. This is the government budget – which must always be recognised to provide the primary mechanism by which PAs are funded, both now and in the future. No other long-term fund can, or should, replace or substitute for it, and any new financial mechanism has to be seen as being supplementary, complementary and supportive to the public budget and to the government's stated commitment, mandate and obligation to continue to fund the national PA network.

## Basic design elements

PA funds can take a wide variety of forms, and many different options exist as regards their scope, purpose, design and operational modalities. The sections below consider basic options and choices in relation to six core elements of fund setup and operation (Figure 21): fund types and lifetime, legal setup and operation, governance structure and operational management, investment management and location, sources of funding and capital, and fund disbursement and targets.

Figure 19: Core elements and choices in fund setup and operation



Examples of selected PA, biodiversity and environmental funds are also provided, to illustrate how these types of arrangements have been dealt with in existing PA funds in ASEAN countries (Figure 20).

Figure 20: Key characteristics of selected PA, biodiversity and environmental funds in ASEAN countries

Name of fund	Type	Organisation	Financial management	Sources	Targets
Non-governmental foundations and trust funds					
Indonesian Biodiversity Foundation (Yayasan KEHATI)	Endowment	Foundation	Capital managed and invested offshore	Debt-for-nature swap, combined with contributions from bilateral, multilateral and domestic government sources	Small grants to biodiversity projects
Foundation for the Philippines Environment	Endowment	Foundation	Capital managed by professional company, invested in bonds and equities held in PHP and USD		Grants to NGOs for biodiversity and other environmental conservation activities
Bangladesh Arannayk Foundation	Endowment	Non-profit company without shares and limited by guarantee	Capital invested under advice of Finance Standing Committee in fixed deposits in commercial banks within Bangladesh		Grants to national NGOs and research organisations for biodiversity conservation
Bhutan Trust Fund for Environmental Conservation	Endowment + sinking + revolving	Independent fund established under Royal Charter	Capital managed by Asset Management Committee, investments spread between Bhutan and USA		Grants to NGOs, communities and others for environmental conservation activities
Private-public partnerships					
Borneo Conservation Trust (Malaysia)	Revolving	State-mandated NGO under the auspices of the Ministry of Tourism, Culture and Environment, Sabah	Fund has own financial procedures in line with but separate from government	Corporate sponsors, Malaysian Palm Oil Council, Sabah Government	Management, lease and purchase of lands in “Borneo Conservation Trust Green Corridor” area
Malaysian Palm Oil Wildlife Conservation Fund	Revolving	State-mandated NGO under the auspices of the Malaysian Palm Oil Council		Corporate sponsorship	Conservation of the environment and wildlife in Malaysia
Government extra-budgetary funds					
Lao PDR Environment Protection Fund	Endowment + sinking	Prime Minister’s Office / Ministry of Environment and Natural Resources	Capital endowment component is held in an interest-bearing savings account at a domestic commercial bank	Development bank loan, international donors, environmental & social safeguard funding from hydropower	Small grants to individuals, households, NGOs and government agencies to strengthen environmental protection, sustainable natural resources management, biodiversity conservation and community development
Viet Nam Conservation Fund	Sinking	Nature Conservation Division of the Ministry of Agriculture and Rural Development	Funds managed according to government regulations	Government budget and international donors	Small grants to PA management boards to strengthen management and co-management capacity
Viet Nam Forest Protection and Development Fund	Revolving	Ministry of Agriculture and Rural Development (National).		Government, International donors, PES from private sector	Primarily serves to channel PES payments to ‘forest owners’

Name of fund	Type	Organisation	Financial management	Sources	Targets
		Provincial administrations (Provincial)			
Viet Nam Environmental Protection Fund	Revolving	State-run financial organisation attached to the Ministry of Science, Technology and Environment		State budget, percentage of revenues from CER, environmental fines and compensation	Grants, soft loans, interest rate support, and debt guarantees in support of climate change, pollution control and environmental protection activities
Lao PDR Forestry and Forest Resource Development Fund	Revolving	Department of Forestry, Ministry of Environment and Natural Resources		Forest royalties and charges, revenues earned from competitive bidding for timber sales, contributions from private sector, funding from international agencies	Support to government, private and community projects in forestry protection, development and research
Philippines Integrated Protected Areas Fund	Revolving + sinking	Department of Environment and Natural Resources (Central), PA Management Boards (sites)		Share of PA revenues, other donations and endowments	Funding of government PA coordination and management activities
Malaysia Marine Park and Marine Reserve Trust Fund	Revolving	Department of Marine Parks		Government budget, visitor conservation charge, donations from companies and general public	Management of Marine Park Centres, education, awareness, tourist facilities

## Fund types & lifetime

One very fundamental design choice is to decide on the type of model that will be utilised to manage and disburse funds. Most funds either invest the capital and allocate the interest earned (endowment funds), draw down funding over a specified time period (sinking funds), and/or act as a fund that is continuously renewed and replenished (revolving funds). To a large extent the choice of fund type depends on the purposes and targets for which it is being managed – and, in many cases, PA funds combine various different elements. A multi-donor trust fund would, for example, usually be based around a sinking fund with a finite lifespan, while funds which are designed to manage PES payments or extend credit and loan facilities to PA-adjacent communities could be expected to operate on a revolving model. Funds which are set up in order to manage large, one-off inflows of capital (such as debt-for-nature swaps or large-scale compensation or safeguards funds) are often set up as permanent endowments, spending only the interest income.

One example of an endowment fund is the Indonesian Biodiversity Foundation (Yayasan KEHATI), established in 1995. It was capitalised via a grant of USD 16.5 million from USAID, as well as contributions from UNEP and the Government of Indonesia. The interest earned from the investment of the endowment is used to provide small grants to biodiversity projects. The

Foundation for the Philippines Environment is another case of a trust that is financed by an endowment (in this case generated via a debt-for-nature swap), from which interest income is used to provide grants to NGOs for biodiversity and other environmental conservation activities. The Arannayk Foundation of Bangladesh (also known as the Bangladesh Tropical Forest Conservation Foundation) is set up under a similar model, using interest income to provide biodiversity grants to national NGOs and research organisations.

An example of a sinking fund is provided by the Viet Nam Conservation Fund, established in 2005 to administer about USD 15 million sourced from the State Budget and overseas donors (most notably the Netherlands Government, Global Environment Facility and World Bank). Over a 6-year period, the fund provided small grants of up to USD 50,000 each to PA Management Boards (particularly within Provincial governments) to strengthen management and co-management capacity at the site level. Meanwhile, the Lao Environment Protection Fund manages two different types of funds: endowment and sinking funds. The endowment component, funded through a USD 5.7 million loan from the Asian Development Bank, generates interest to cover the fund's operational costs as well as providing for a limited number of small grants. The sinking fund comprises a USD 7 million grant from the World Bank for social and environmental safeguard activities being carried out in relation to the Nam Theun 2 hydropower project.

Two examples of revolving funds can be found in Viet Nam. National and Provincial Forest Protection and Development Funds have been running since 2008, under the management of the Ministry of Agriculture and Rural Development and Provincial administrations. While these funds were originally set up to receive funding from a variety of sources (including foreign aid, voluntary donations and state budget support), their major function has evolved to become to receive payments made by the beneficiaries of forest environmental services, administer and process them, and pass them on to the 'forest owners' which are eligible to receive compensation. The Viet Nam Environmental Protection Fund, established in 2002, meanwhile serves to provide financial assistance for climate change, pollution control and environmental protection activities in the form of soft loans, interest rate support for loans taken from other credit institutions, and debt guarantees. It is funded mainly from State budget contributions and earmarked fiscal revenues.

## Legal setup & governance structure

While it is self-evident that PA funds must be set up as legal entities, there are a wide range of possible ways in which this can be accomplished, and a broad variety of structures under which they can be governed and run. PA fund models range from government agencies and state-run institutions, through private foundations and non-governmental organisations, to projects and private companies. They usually utilise existing legal provisions. In exceptional cases, a special law may be enacted solely to enable the establishment of a PA trust fund and the particular investment, tax or management regime it embodies.

Most donor-funded and international NGO-driven reviews conclude that the most “successful” conservation trust funds are those which are constituted as independent organisations, and have governance structures that involve a broad variety of stakeholders, sectors and organisations of which at least half are from outside government (see, for example GEF 1998, 1999; Spergel and Taïeb 2008). It is, however, important to remember that in many Asian countries there remain certain legal and political limitations on the extent to which it is possible to operate effectively as a fully independent fund, wholly outside government influence.

There are several examples in ASEAN countries of conservation funds which are set up fully within government. Viet Nam’s Conservation Fund and Forest Protection and Development Funds operate as government extra-budgetary funds, while the Environment Protection Fund is designated as a State-run financial organisation. A secretariat within the Nature Conservation Division of the Ministry of Agriculture and Rural Development was responsible for the day-to-day management of the Viet Nam Conservation Fund, under a National Project Steering Committee composed of representatives from the Ministry of Agriculture and Rural Development, Ministry of Planning and Investment, State Bank of Viet Nam, Ethnic and Mountain Committee, General Department of Land Administration and Viet Nam Farmers Association.

Similar arrangements pertain in Lao PDR: the Lao Forestry and Forest Resource Development Fund, established in 2006, is an extra-budgetary fund managed by the Department of Forestry set up to retain earmarked fiscal revenues and other funding sources, while the Lao Environment Protection Fund was set up in 2005 as an autonomous financial institution housed in the Prime Minister’s Office. Both funds are run internally by the government agency within which they are located, and allow for only very limited decision-making inputs from major external donors. Lao PDR’s Environmental Protection Fund, for example, was established by Prime Ministerial Decree, and the Board of Directors is chaired by the Deputy Prime Minister, vice chaired by the Minister of Finance, and has 7 members representing line Ministries.

The Integrated Protected Areas Fund in the Philippines also provides an example of a government trust fund. It was set up under the provisions of the 1992 NIPAS Act to receive and retain PA revenues, other donations and endowments, and then disburse the funds to PA Management Boards to finance site-level conservation activities. The fund was set up to operate both nationally (the Central IPAF) and locally (via IPAF sub-funds for each PA). It however incorporates a somewhat more diverse management structure than the Viet Nam and Lao PDR cases given above. The central IPAF governing board comprises the Secretary from the Department of Environment and Natural Resources and four other representatives from government agencies, two members of accredited NGOs, and two indigenous community representatives. IPAF sub-funds are governed by the Protected Area Management Board, and include stakeholders from local and central government, NGOs, indigenous people and other interested bodies.



There are several examples in the ASEAN region of conservation trust funds being set up wholly outside government, as national foundations or NGOs. This is the case, for example, for both the Indonesian Biodiversity Foundation and the Foundation for the Philippines Environment. The Foundation for the Philippines Environment operates through a Board of Trustees and three Regional Advisory Committees, each composed of members from NGO, academia, private sector and government, as well as representatives from each of Luzon, Visayas and Mindanao regions. The Arannayk Foundation of Bangladesh is registered as a non-profit company without shares and limited by guarantee, under the Bangladesh Companies Act. Its apex body, the Board of Directors, includes representatives from the Governments of Bangladesh and the USA as well as five members selected by the Ministry of Environment and Forests from environmental organisations, community-based development organisations and academic institutions. All three foundations also operate standing committees or specialist groups to advise on specific technical and operational matters, and employ a full-time professional staff to manage the day-to-day running and operations of the organisation.

The Borneo Conservation Trust, set up in 2006, provides an example of a state-mandated NGO. It operates under the auspices of the Ministry of Tourism, Culture and Environment, and combines elements of publicly-run and non-governmental institutional structures. The fund is managed by a board of trustees drawn mainly from palm oil companies, and has a small operational staffing base. Its main area of operations is to preserve the habitat and migration routes of Borneo's endangered wildlife through the management, lease and purchase of lands within and in the vicinity of a proposed "Borneo Conservation Trust Green Corridor" area, with funding from various corporate sponsors, the Malaysian Palm Oil Council and Sabah Ministry of Tourism. Various other conservation trusts run by the private sector and industry associations in collaboration with government operate along similar lines elsewhere in Malaysia. The Malaysian Palm Oil Wildlife Conservation Fund was for example set up as an initiative of the Malaysian Government and the Malaysian palm oil industry towards the conservation of the environment and wildlife in Malaysia. Funded via grants from the palm oil industry, the fund is administered by the Malaysian Palm Oil Council (a government agency under the Ministry of Plantation Industries and Commodities).

External donors and international organisations often maintain considerable influence over the operation of conservation trust funds, especially in their early stages of establishment. For instance, the Board of Directors of the Arannayk Foundation is composed of permanent ex-officio members from each of the Governments of Bangladesh and the USA (usually represented by the Mission Director of USAID in Bangladesh), and the five NGO members of the Board are subject to USAID approval. Over time, this role often diminishes. The Bhutan Trust Fund for Environmental Conservation, established under Royal Charter, provides an example of a fund management structure that has changed over time. Initially run as a collaborative venture between the Royal Government of Bhutan, UNDP and WWF, the fund evolved over the course of 5 years to become fully Bhutanese in 2001. Formerly, WWF had been provided with a seat on the management board, and UNDP served as an ex-officio member without voting powers. Today, the six-person management board is composed of five government-appointed members

(under the chair of the Minister of Agriculture and Forests) and a representative from a national NGO.

## Fund management & location of investments

As most conservation funds are set up with the explicit aim of attracting and administering funding from multiple sources outside the public budget and traditional development assistance projects, the need for a transparent, accountable and streamlined financial management procedures is usually a given. Different types of funds however have varying financial management needs and possibilities. While sinking funds are usually relatively straightforward to administer, a number of decisions need to be made about the modalities under which endowment funds will be invested, which usually require expert advice and management support. Funds which include credit or loan components also typically require specialist inputs.

For the most part, conservation funds that are set up as extra-budgetary funds within government are managed according to the internal regulations and processes that govern other aspects of public financial management. For example, fund management procedures for the Viet Nam Conservation Fund were fully consistent with those used in other parts of the Ministry of Agriculture and Rural Development, and endorsed by the Ministry of Finance. Grant funds, once approved, were directly paid to special accounts held by PAs at District-level commercial banks. Similarly, the Philippines Integrated Protected Area Fund requires that site-level sub-funds work through accounts held in any government bank held in the locality in which the PA is located, and that funds should be managed in accordance with government accounting, budgeting and auditing rules and regulations. The rules and standards of fund management for the Lao Environmental Protection Fund are regulated by its charter and operations manual, but basically follow the procedures designated for government autonomous and off-budget funds by the Ministry of Finance.

Conservation funds are usually designed to be tax exempt and to take advantage of other financial and investment allowances and incentives. Thus, for example, one of the factors guiding the incorporation of Bangladesh's Arannayk Foundation was the tax exemption status granted to a not-for-profit company without shares. Although this type of organisation is subject to more stringent government oversight than other categories of NGOs registered under the Society Act, this does also allow for the Arannayk Foundation to be exempt from the usual government requirement for all foreign donations to pass through the governmental NGO Bureau (Bladon et al. 2014).

Most of the larger-scale conservation funds which are held outside government and include an endowment component engage some form of independent service provider to advise on, or to manage, the investment portfolio. For example, the Indonesian Biodiversity Foundation's endowment is managed by a professional Fund Manager in the Chemical Bank in New York, which serves as the master custodian for the portfolio. The Investment Committee, composed of

experts in investment, capital markets and banking, maintains an advisory and oversight role. The assets of the Bhutan Trust Fund for Environmental Conservation are managed by an Asset Management Committee, consisting of representatives from the Ministry of Finance, Druk Holdings and Investments, National Pension Funds, Royal Monetary Authority, and an independent professional asset manager from the US (Irawan et al. 2012). Less commonly, investment committees or trustees may fulfil these functions without additional outside advice. The Arannayk Foundation endowment is for instance invested under the advice of the Finance Standing Committee, comprised of three board members.

Where national regulations permit<sup>18</sup>, fund endowments are usually invested at least partly offshore. This serves both to maximise investment returns and to minimise risk. The Bhutan Trust Fund for Environmental Conservation thus spreads its investments between capital markets in Bhutan and the USA. However, as investments in Bhutan currently offer much greater potential returns, funds are being shifted into domestic investments, including three commercial banks, one insurance company and one trading company (Irawan et al. 2012). The endowment held by the Foundation for the Philippine Environment is split around 80:20 between bonds and equities, around half of which are held in Philippine Pesos and the other half in US Dollars. The Indonesian Biodiversity Foundation's portfolio is currently invested through comingled funds offered by The Investment Fund for Foundations, an investment cooperative of public and private foundations, Hotchkis and Wiley, and the Vanguard Group. Assets are allocated in a globally diversified portfolio of equities and fixed-income securities traded on public capital markets, including shares in Indonesian securities. Although in principle permitted to be invested internationally, the capital endowment of the Lao Environmental Protection Fund is held in a savings account at a commercial bank. This is mainly because the amount of the endowment is not large enough to make external investments an economic option. For similar reasons, the Arannayk Foundation endowment is also invested via fixed deposits in commercial banks within Bangladesh.

## Sources of funding & capital

In theory, any funding source which are permitted by law can be used to capitalise and feed conservation funds. In practice, the sources of funding and capital depend heavily on whether the fund is being run from within or outside government. While the former typically rely heavily on fiscal revenues (and, as described above, are subject to more general public sector procedures and regulations on financial management and reporting), the latter cannot usually receive budgetary revenues except via fixed government counterpart funding agreements but are typically more flexible in their ability to capture other contributions.

The Integrated Protected Area Fund of the Philippines represents a typical example of a government fund, receiving contributions from a share of PA revenues from fines, penalties,

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<sup>18</sup> In some countries, funds held by governments can only be invested domestically or even – in the most extreme cases – in government bonds.

leases and concession fees, charges for entry and other sales (75% of which are retained by the PA in which they were generated, and 25% remitted to the central IPAF) as well as donations and endowments (100% of which are retained by the PA in which they were generated). Along similar lines, the Government of Malaysia's Marine Park and Marine Reserve Trust Fund was established with an initial grant from the government of around USD 1 million in 1987, and is currently funded primarily from the proceeds of a conservation charge levied on all visitors to marine protected areas, as well as from donations from companies and the general public. Lao PDR's Forestry and Forest Resource Development Fund is financed from royalties and charges for timber and non-timber forest products, combined with fees for forest land and resources inventories, a share of the revenues earned from competitive bidding for the sales of timber derived from production forests, contributions from forestry sector businesses, and funding from international agencies. Viet Nam's Conservation Fund was financed from government and donor contributions, while the Environmental Protection Fund is resourced mainly through the State budget, a percentage of revenues earned from selling Certified Emissions Reductions, fines paid for environmental protection, damage compensation and other penalties.

Although most conservation sinking and revolving funds are capitalised from multiple sources, some are set up to receive and administer just one source of contributions. For example, both the Borneo Conservation Trust and the Malaysian Palm Oil Wildlife Conservation Fund function primarily to administer corporate sector contributions. The Department of Wildlife and National Parks Peninsular Malaysia has established the Elephant Trust Fund mainly with the purpose of receiving donations from visitors to the National Elephant Conservation Centre at Kuala Gandah.

Multi-donor funds provide a mechanism to channel development assistance and externally-funded grants to government, and to make sure that it is coordinated and spent according to the highest conservation priorities as identified in national policies, strategies and plans. Viet Nam's Trust Fund for Forests provides a good example of this kind of multi-donor fund. Since the early 2000s, most donor support to the forestry sector in Viet Nam has been channelled through the Forest Sector Support Partnership, a body established to support the National Forest Strategy, and coordinated by the Ministry of Agriculture and Rural Development. One of the activities overseen by the FSSP is the Trust Fund for Forests, established in June 2004 with seed funding from the Governments of Finland, the Netherlands, Sweden, Switzerland and Viet Nam. This provides a grant facility to national organisations, either as a sole donor or co-financier, to support pro-poor and sustainable approaches to forest management and a transition towards a comprehensive sector wide approach for development and cooperation in the forest sector.

Endowment-based trust funds are usually capitalised via instruments that bring in large one-off inflows of funds – such as debt-for-nature swaps, donor and host country block funding, or major philanthropic contributions. Bangladesh's Arannayk Foundation, Bhutan Trust Fund for Environmental Conservation, Indonesian Biodiversity Foundation and the Foundation for the Philippine Environment were, for example, all established as a result of debt-for-nature swaps, combined with contributions from bilateral, multilateral and domestic government sources. While the GEF and bilateral aid agencies (including via debt forgiveness and swap agreements)

remain the major sources of capital at almost 75%, funds from the private sector, other non-profit organizations and foundations are beginning to play an increasingly important role (Spergel and Taieb 2008).

## Fund disbursement & targets

PA trust funds may be targeted towards a wide range of potential targets and beneficiaries, reflecting the diversity of PA conservation costs and cost-bearers as well as the variety of sources and purposes upon which different funds are based. Most government-run conservation funds can only raise and spend funds according to the mandate of whichever institution they are being operated under, and are often restricted to funding the activities of PA authorities. Thus, although the Marine Park and Marine Reserve Trust Fund of Malaysia, Philippines Integrated Protected Area Fund and Viet Nam Conservation Fund all allow for a relatively diverse range of activities in support of PA management to be funded, they are restricted to those which contribute towards site-level PA management plans, and which can be carried out under the auspices of the PA managing authority. Although spending can be made on activities which strengthen local participation and benefit from PA management, it cannot be channelled directly to communities.

In other cases, the primary function of PA funds is to channel resources to organisations and individuals outside government. Fund models such as the Viet Nam Environment Protection Fund and Forest Protection and Development Funds, and the Lao PDR Environment Protection Fund are explicitly designed to disburse funds to community groups and the private sector. In the case of Viet Nam's Forest Protection and Development Funds, a major intention is to serve as a clearing house for payments for forest environmental services, and to administer their distribution to the 'forest owners' which are eligible to receive compensation, including PA Management Boards, State-owned Forestry Enterprises, private businesses, communes and local households. The Environment Protection Fund is designed to make funding available for environmental restoration and clean-up activities to individuals, businesses, communities and NGOs, as well as government agencies.

Lao PDR's Environment Protection Fund provides a particularly interesting model, as it combines multiple funding sources, disbursement mechanisms, targets and beneficiaries. Overall, the fund is designed to provide grants to individuals, households, NGOs and government agencies to strengthen environmental protection, sustainable natural resources management, biodiversity conservation and community development. To do this, it operates through a series of "windows": water resources management, sustainable land management, pollution control, community and biodiversity investment, and policy implementation and capacity enhancement. Expenditures under the last two windows are funded wholly through World Bank contributions, while grants under the Community and Biodiversity Investment window are confined to social and environmental activities in and around Protected Areas in the three Provinces (Bolikhamsay, Khammouane and Savannakhet) which comprise the Nam Theun/Nam Kading river basin. The

interest from the original ADB-funded endowment is used to finance activities in the other three windows.

Most internationally-funded conservation funds and PA funds located outside government are at least partially (and often wholly) targeted towards reducing threats to biodiversity by financing projects that support alternative livelihoods or sustainable development activities in PA buffer zones (Spergel and Taïeb 2008). For example, Indonesia's Biodiversity Foundation provides grants and technical assistance to NGOs, community organisations, research agencies and training institutions to support activities concerned with the conservation and sustainable use of biodiversity. The Foundation for the Philippines Environment similarly channels grant funding to civil society organisations and researchers for activities in priority sites (mainly targeted at community-based biodiversity conservation and sustainable resource management initiatives) and at the national level. Bangladesh's Arannayk Foundation focuses on providing grants to NGOs, community organisations, businesses, academic institutions and – in exceptional circumstances – government agencies engaged in activities aimed at conserving, protecting, maintaining and/or restoring tropical forest and biodiversity assets. Originally designed to finance the recurrent costs of government conservation programmes (including PAs), the Bhutan Trust Fund for Environmental Conservation now functions more as a grant-making organisation for Bhutanese individuals and organisations to carry out research, implement projects and build awareness and education, and includes a component specifically dealing with rural and community-based conservation projects.

It is worth noting that many of the conservation funds set up with international funding have certain restrictions or pre-determined focus areas built into them. For example, those set up via debt-for-nature swaps under the US government Tropical Forest Conservation Act (including Bangladesh's Arannayk Foundation, Indonesia's Biodiversity Foundation and the Foundation for the Philippines Environment) are confined to generating funds to support activities related to tropical forest conservation. Due to being funded in part by the GEF, Viet Nam Conservation Fund grants were limited to activities that supported biodiversity of international importance and followed a principle of additionality rather than substitution, being designed to cover only the incremental costs of effective conservation in cases where there are insufficient public funds to design and implement conservation management strategies.

## Conclusions on PA financing needs & fund design options for Myanmar

The examples presented in the sections above illustrate the wide range of possible purposes, design options and operational modalities under which conservation funds may be established and run. In principle, a long-term PA fund for Myanmar could combine any of these elements, depending on the purpose for which it is being set up, and what its likely funding targets and intended beneficiaries would be. It is the objective and scope of the fund which will drive its financial sources, determine how and under what model it would be set up, how it would function, and to what ends.

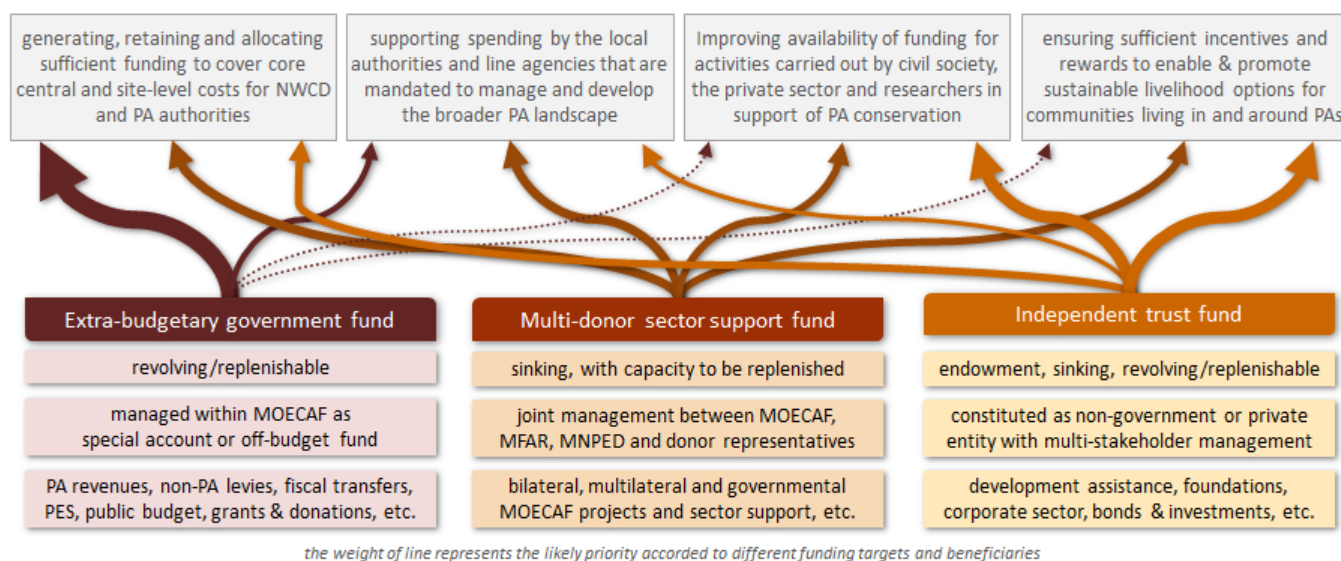
While the purpose and functions of any PA fund for Myanmar can only be determined after extensive consultation with key stakeholders, the earlier analysis of constraints to PA financial sustainability (see accompanying report *Myanmar Protected Areas: assessment of financing status, trends, constraints & opportunities*) suggest that there are likely to be certain core needs, including:

- A dedicated fund to  earmark, retain and administer  funding specifically for spending on PAs;
- A permanent mechanism which can foster a  long-term perspective  on PA financial and conservation planning, resourcing and spending;
- A credible, transparent and accountable instrument which will help  to attract and administer new funding  for PAs that cannot be easily managed either through routine annual public budget allocations or external project-based funding;
- A means of  filling PA funding gaps  and supplementing MOECAP's core spending on PAs under the Union budget;
- A system for mobilising and channelling funding to the  broad range of sectors, stakeholders, sites and activities in the wider landscape  which have the potential to contribute to PA biodiversity conservation.

It may be useful to consider the possibility that a single fund is unlikely, alone, to be able to fully overcome these constraints, cover current and future PA financing needs, or capture the full range of PA funding possibilities. There are clearly needs to strengthen the PA funding base both within and outside MOECAP, and for a wide range of actors and activities – including in at least four areas:

- Generating, retaining and allocating sufficient funding to cover the core central and site-level costs of maintaining PAs as functioning institutions costs for  NWCD and PA authorities ;
- Supporting spending on biodiversity conservation by the  local authorities and line agencies  that are mandated to manage the broader PA landscape;
- Improving the availability of funding for activities carried out by  civil society, the private sector and researchers  in support of PA conservation; and
- Ensuring that sufficient incentives and rewards are provided to enable and promote sustainable land, resource and livelihood options for  communities living in and around PAs .

Figure 21: Basic PA fund design options



In the light of these needs, three main PA fund options are recommended, as complementary rather than alternative measures. Each has a different structure and operational modalities, target and intended beneficiaries, and would likely have access to different funding sources (Figure 21):

- Extra-budgetary government fund to earmark, retain and administer fiscal revenues and other sources of public funding;
- Multi-donor sector support fund with which to coordinate externally-funded grant-based projects and donor support; and
- Independent trust fund to make available funding to support PA management which is additional and complementary to MOECAP's spending and mandate.

### *Extra-budgetary government fund*

The main function of this fund would be to earmark, retain and administer fiscal revenues and other government and external contributions to cover the core costs of maintaining PAs as functioning and viable institutions. It would likely be a revolving/replenishable fund, managed within MOECAP as a special account or extra-budgetary fund. It should be able to receive all or a portion of PA income, earmarked non-PA surcharges, levies and fiscal transfers, as well as to have the capacity to receive other one-off or regular remittances from the public budget and from grants and donations from external sources. While the primary target for funding would be NWCD and PA authorities, such a fund could also provide an important mechanism for sharing funding with State/Regional governments and line agencies. The obvious path for developing this fund option further would be via the Environmental Management Fund, as this is already enabled by law and under development. If constituted as an umbrella fund, the proposed Environmental Management Fund could include a dedicated "window" for PAs (and even PA sub-funds, organised on a site basis), in which NWCD would play the primary management and



decision-making role. A second option would be to look towards establishing a separate extra-budgetary fund or special account which is solely and specifically designated for PA funding.

### *Multi-donor sector support fund*

The main function of this fund would be to coordinate externally-funded grant-based projects and donor support to the PA sector in Myanmar, and ensure that projects are planned, funded and implemented according to the highest international and national conservation priorities. This would most probably involve a sinking fund with the capacity for replenishment on a periodic basis (either over a fixed term, or as and when new donor funding commitments are made). Fund management arrangements would likely be undertaken via a collaborative setup which would bring together MOECF, MFAR and MNPED, and representatives of the donor community.

### *Independent trust fund*

The main function of this fund would be to make available funding to support PA management which is additional and complementary to MOECF's spending and mandate. Key targets might therefore include to provide supplementary funding to PA authorities for operational management activities, support sustainable development and livelihoods activities in the broader PA landscape, and to provide grant-based financing to NGOs, community-based organisations, researchers, the private sector and other civil society groups to undertake PA-related research, education, awareness, capacity-building and on-the-ground conservation activities. The fund would likely be based around a sizeable endowment component, generating interest income which could be disbursed as grant spending, and should also be able to be replenished on a periodic or regular basis, incorporate sinking fund elements (to deal with large tranches of funds to be spent on specific purposes) and possibly also extend to managing credit and loans.

Decisions as to the legal establishment, constitution, investment and fund management options for an independent PA trust fund would have to be the subject of a separate, detailed feasibility and design study. This would need to involve substantial stakeholder consultation, as well as a detailed review of legal and investment frameworks in Myanmar. It is however worth noting that such funds typically require a substantial initial injection of capital if they are to be viable and effective over the long-term. Experience also shows that detailed, complex and lengthy processes are often involved in establishing PA trust funds: work carried out on conservation trust funds in Central African countries for example indicates a minimum preparation period of 3-5 years and an average cost of USD 0.3 million (Emerton and Nlom 2010), while the Lao PDR Environmental Protection Fund took a total of 7 years to set up (Emerton and Lopaying 2010), the Foundation for the Philippines Environment required two years of consultation before it was registered, Arannayk Foundation was not able to start allocating grants until more than 3 years after it was set up (Bladon et al. 2014), and it took more than ten years for the Bhutan Trust Fund for Environmental Conservation to evolve into a grant-making body (Irawan et al. 2012).

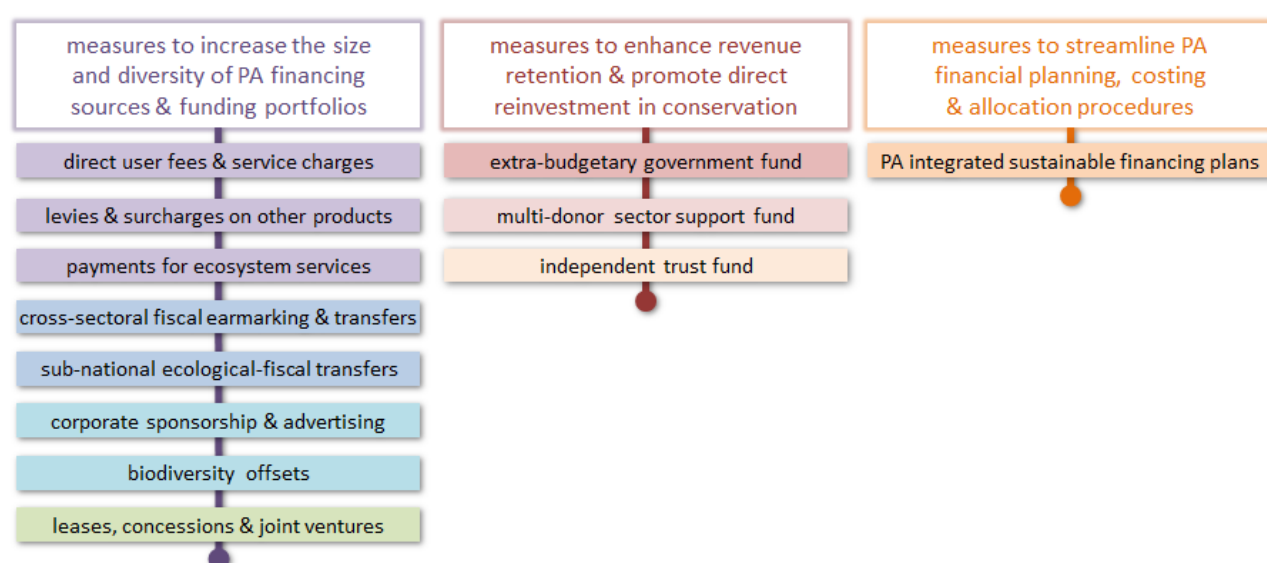
## 8 Enabling conditions and next steps for taking PA sustainable financing forward

*The accompanying report on financing status and trends identified a need to increase the size and diversity of PA funding portfolios, enhance revenue retention and promote direct reinvestment in conservation, and streamline PA financial planning, costing and allocation procedures. The current document has suggested concrete options and instruments for achieving these goals, and identified those which have the greatest potential for further development in Myanmar. The chapter below elaborates the broader enabling conditions, requirements and next steps for the development and implementation of priority funding mechanisms, and suggests a framework and set of actions for strengthening PA financial sustainability.*

### Opportunities, risks & follow-up needs for priority financing measures

The current document has identified eight sources of revenue and income with high or medium potential for further development in Myanmar as a means of increasing the size and diversity of PA financing sources and funding portfolios. These include direct user fees and service charges, payments for ecosystem services, corporate sponsorship, and advertising, leases, concessions and joint ventures, levies and surcharges, on other products, biodiversity offsets, cross-sectoral fiscal earmarking and transfers, and sub-national ecological-fiscal transfers and retention. It has also suggested options for the development of up to three dedicated long-term funds which can serve to enhance revenue retention and promote direct reinvestment in conservation: an extra-budgetary government fund, multi-donor sector support fund and independent trust fund.

Figure 22: Summary of priority PA financing measures



In addition (and as emphasised in the accompanying report *Myanmar Protected Areas: assessment of financing status, trends, constraints & opportunities*), alongside any efforts to increase the amount of funding available, retained and reinvested in conservation, there is also a need to streamline PA financial planning, costing and allocation procedures. Without a clear definition of conservation priorities and a plan for addressing them, taking steps to increase the overall amount of funding for PAs may have little on-the-ground impact. The development of PA integrated sustainable financing plans is therefore recommended as an additional priority measure to link improvements in the financial status of PAs with enhanced on-the-ground management effectiveness and delivery of biodiversity conservation outcomes.

Each of these twelve priority PA financing measures is further elaborated below, including their sources, purpose and target, the opportunities and risks they may entail, and initial needs for their follow-up and further development (Figure 23).

Figure 23: Sources, purpose, target, opportunities, risks and follow-up for priority financing measures

User fees and service charges for PA land, resources & facilities	
General description	Charges paid for extractive and non-extractive uses of PA lands, resources and facilities
Fund source(s)	Resource harvesters, recreational visitors, tourist enterprises, concessionaires & lease holders, etc.
Purpose & target	Recover costs of providing goods and services with commercial value, institute user pays principle, provide source of fiscal revenues for MOECAP
Opportunities, limitations, assumptions & risks	Is already enabled by law and used to generate public revenues– but only for a limited range of goods and services, and not all revenues are collected by MOECAP. Prices do not always reflect market rate, costs of provision or consumer willingness to pay. Requires extra-budgetary mechanism for retaining and reinvesting revenues.
Initial needs for follow-up & further development	<ul style="list-style-type: none"> <li>• Identification of chargeable goods and services;</li> <li>• Preparation of business case for new revenue streams;</li> <li>• Market analysis of provision costs and willingness to pay;</li> <li>• Obtain agreement from MFAR for new fee categories and price levels;</li> <li>• Modification of list of chargeable goods and services in law;</li> <li>• Identification of arrangements for fee collection and administration;</li> <li>• Piloting and rollout in demonstration PAs.</li> </ul>

Voluntary levies & surcharges on other products	
General description	Percentage or flat fee levied on nature-related products and other goods/services
Fund source(s)	Travel and tourism consumers and providers, financial products and services, etc.
Purpose & target	Capture consumers' interest in and willingness to contribute towards conservation, provide source of fiscal revenues for MOECAP and income for land/resource managers around PAs
Opportunities, limitations, assumptions & risks	Is not explicitly mentioned in or enabled by law. Although there is a rapidly growing domestic and international tourism industry with strong basis and interest in nature-based aspects, it currently remains relatively small. Mechanism may have more potential for application to international than domestic consumers. Would likely require negotiation with, and direct support from, tourist companies and service providers. Requires extra-budgetary mechanism for retaining and reinvesting revenues.
Initial needs for follow-up & further development	<ul style="list-style-type: none"> <li>• Identification of products and services with consumer/company interest and willingness to pay;</li> <li>• Preparation of business case for new revenue streams;</li> <li>• Negotiation of levy or surcharge level;</li> <li>• Obtain agreement from MFAR for development as PA financing mechanism;</li> <li>• Modification of list of chargeable goods and services in law;</li> </ul>

Voluntary levies & surcharges on other products	
	<ul style="list-style-type: none"> <li>• Piloting and rollout for key products and services.</li> </ul>

Payments for ecosystem services	
General description	Cash or in-kind fees collected from beneficiaries of ecosystem services, channelled as rewards or compensation to land & resource managers
Fund source(s)	Ecosystem service beneficiaries – bulk users or end-users of watershed, landscape, biodiversity, fisheries, disaster reduction, etc. services
Purpose & target	Reward for providing economically valuable ecosystem services and/or compensate the costs of provision, institute user pays principle, provide source of fiscal revenues for MOECF and income for land/resource managers around PAs
Opportunities, limitations, assumptions & risks	Although has already been identified as a priority and is under development by MOECF, is a new mechanism that has not yet been tested in Myanmar and will require considerable efforts to develop. Is not explicitly mentioned in or enabled by law. Preparation of technical and legal background can be time-consuming and requires expert inputs. Identification of ecosystem service buyers and sellers and negotiation of terms and conditions of transactions typically involves lengthy process of scoping and negotiation. Requires formulae for charging and benefit-sharing, and mechanism for administering and distributing revenues.
Initial needs for follow-up & further development	<ul style="list-style-type: none"> <li>• Identification of key ecosystem services with potential for PES;</li> <li>• Consultation with potential ecosystem service providers and sellers;</li> <li>• Detailed scoping, design feasibility assessment of potential schemes;</li> <li>• Obtain agreement from MFAR for development as PA financing mechanism;</li> <li>• Preparation of business case for development of PES;</li> <li>• Development of legal basis and safeguards as necessary;</li> <li>• Development of benefit-sharing and financial mechanisms;</li> <li>• Modification of list of chargeable goods and services in law;</li> <li>• Piloting and rollout for key services and sites.</li> </ul>

Cross-sectoral fiscal earmarking & transfers	
General description	Allocation of all or portion of public revenues from taxes and other charges generated by other sectors
Purpose & target	Provide source of fiscal revenues for MOECF, institute user pays principle
Fund source(s)	Fiscal revenues collected by other agencies and sectors from products and services which use or impact on the environment, or from public revenue streams that are unrelated to PAs
Opportunities, limitations, assumptions & risks	Many existing public revenue sources depend or impact on biodiversity and ecosystem services. There is however no precedent for this type of transfer in Myanmar, and fiscal earmarking and transfers to some extent contradicts current policy of centralised budget allocation and public financial management. Adoption depends primarily on high-level acceptance and buy-in from MFAR and affected sectors. Requires extra-budgetary mechanism for retaining and reinvesting revenues.
Initial needs for follow-up & further development	<ul style="list-style-type: none"> <li>• Identification of revenue streams with potential for capture;</li> <li>• Preparation of business case for new revenue streams;</li> <li>• Seek dialogue and agreement from MFAR and other sectors;</li> <li>• Negotiation of benefit-sharing levels;</li> <li>• Modification of list of chargeable goods and services in law;</li> <li>• Piloting and rollout for key sectors and revenue streams.</li> </ul>

Sub-national ecological-fiscal transfers	
General description	Redistribution of public revenues from central to subnational level based on provision of public benefits through PA system
Fund source(s)	Union and State/Region budgets
Purpose & target	Provide source of fiscal revenues for deconcentrated MOECF units and/or for Regional/State government and local administrations to spend on PAs and biodiversity conservation; institute user pays principle and reward/ compensate costs of providing PAs as national public service
Opportunities,	Increasing decentralisation and deconcentration (including in MOECF) of natural resource governance and

Sub-national ecological-fiscal transfers	
limitations, assumptions & risks	financial management. Fiscal transfers between the central/federal and subnational level already exist. As yet, subnational governments and line agencies however have no direct responsibility for undertaking or funding biodiversity conservation activities. Adoption depends primarily on high-level acceptance and buy-in from MFAR and Regions/States.
Initial needs for follow-up & further development	<ul style="list-style-type: none"> <li>• Secure support from MFAR and Regions/States;</li> <li>• Identify and negotiate potential benefit-sharing formula, administration modalities and conditions attached to fund transfer;</li> <li>• Inclusion in ongoing decentralisation reforms and procedures as appropriate;</li> <li>• Development of model agreements for fund transfer and spending;</li> <li>• Piloting and rollout in selected Regions/States.</li> </ul>

Corporate sponsorship & advertising	
General description	Cash or in-kind (technical advice, training, professional services, equipment, infrastructure, etc.) contributions to PAs from companies
Fund source(s)	Companies operating close to PAs, depending or impacting on biodiversity and ecosystems,
Purpose & target	Capture companies' interest in and willingness to contribute towards conservation, provide source of fiscal revenues for MOECF and income for land/resource managers around PAs
Opportunities, limitations, assumptions & risks	Model for corporate PA funding already exists in Myanmar. Opening up of economy to outside investors and companies involves entry of companies which already have active CSR programmes and are interested in extending these arrangements in Myanmar. Is explicitly mentioned in the law. Can be provided as project funding with no requirement for extra-budgetary retention and reinvestment mechanism.
Initial needs for follow-up & further development	<ul style="list-style-type: none"> <li>• Identification of companies with interest and willingness to contribute;</li> <li>• Presentation of proposals and funding needs to interested partners;</li> <li>• Negotiation of funding agreements;</li> <li>• Piloting and rollout in demonstration PAs.</li> </ul>

Biodiversity offsets	
General description	Funding of species and habitat conservation to balance or compensate for unavoidable biodiversity damage caused by developments elsewhere
Fund source(s)	Extractive industries, large-scale construction and infrastructure, other developments which damage or destroy biodiversity and ecosystems
Purpose & target	Capture companies' interest in and willingness to contribute towards conservation, institute user/polluter pays principles, provide source of fiscal revenues for MOECF
Opportunities, limitations, assumptions & risks	Development of large-scale extractive industries and infrastructure involves companies that are funding biodiversity offset arrangements elsewhere and have indicated willingness to engage in similar arrangements in Myanmar. Has not been tried in Myanmar and is not explicitly mentioned or enabled by law. Can be provided as project funding with no requirement for extra-budgetary retention and reinvestment mechanism.
Initial needs for follow-up & further development	<ul style="list-style-type: none"> <li>• Identification of companies with interest and willingness to engage in offset arrangements;</li> <li>• Presentation of proposals and funding needs to interested partners;</li> <li>• Negotiation of funding agreements;</li> <li>• Modification of list of chargeable goods and services in law;</li> <li>• Piloting and rollout in demonstration PAs</li> </ul>

Leases, concessions & joint ventures	
General description	Devolution of management of particular PA functions, services or facilities to external agencies under payment and/or profit share agreements
Fund source(s)	Companies running tourism enterprises, companies and NGOs with an interest in taking on PA management roles or sharing in PA management costs
Purpose & target	Share in and recover costs of running PA services and facilities, institute user pays principle, provide source of fiscal revenues for MOECF
Opportunities,	Is already enabled by law and used to generate public revenues. Ongoing developments in ecotourism sector

Leases, concessions & joint ventures	
limitations, assumptions & risks	offer additional opportunities and interest to extend current ventures and benefit-sharing arrangements. Not all revenues are however collected by MOECAF. Range of fees charged remains narrow and number of external partners is small. Prices do not always reflect market rate, costs of provision or consumer willingness to pay. Requires extra-budgetary mechanism for retaining and reinvesting revenues.
Initial needs for follow-up & further development	<ul style="list-style-type: none"> <li>• Identification of services and facilities that could be operated under lease, concession or as joint venture;</li> <li>• Preparation of business case for new revenue streams;</li> <li>• Market analysis of provision costs and willingness to pay;</li> <li>• Obtain agreement from MFAR for new fee categories and price levels;</li> <li>• Modification of list of chargeable goods and services in law;</li> <li>• Identification of arrangements for fee collection and reinvestment in PAs;</li> <li>• Piloting and rollout in demonstration PAs</li> </ul>

Extra-budgetary government fund	
General description	Revolving/replenishable fund, managed within MOECAF as a special account or extra-budgetary fund.
Fund source(s)	Fiscal revenues, other government and external contribution
Purpose & target	Earmark, retain and administer funds to cover core central and site-level costs for NWCD and PA authorities. May also provide some level of funding to local authorities and line agencies that are mandated to manage and develop the broader PA landscape, activities carried out by civil society, the private sector and researchers in support of PA conservation, and enabling and promoting sustainable livelihood options for communities living in and around PAs.
Opportunities, limitations, assumptions & risks	Extra-budgetary PA fund is not specifically enabled by law. Although in principle all public revenues are remitted to the Union Fund, a variety of other accounts already exist in Myanmar, and Environmental Management Fund is under development by MOECAF. Revenue retention and earmarking will require high-level support and approval by MFAR.
Initial needs for follow-up & further development	<ul style="list-style-type: none"> <li>• Consultation within MOECAF and with MFAR to determine interest in fund;</li> <li>• Development of business case for fund;</li> <li>• Scoping and detailed design/feasibility assessment, including as part of Environmental Management Fund;</li> <li>• Identification of potential revenue and financial sources, development of benefit-sharing and retention arrangements;</li> <li>• Feasibility assessment and negotiation of alternative models for institutional setup, administrative structures, operational management modalities, planning and reporting procedures</li> </ul>

Multi-donor sector support fund	
General description	Sinking fund with the capacity for replenishment on a periodic basis, managed collaboratively between MOECAF, MFAR, MNPED and external donors.
Fund source(s)	Grants and sector support from international bilateral, multilateral and other donors.
Purpose & target	Coordinate international assistance for the PA sector in Myanmar and ensure that projects are planned, funded and implemented according to the highest international and national conservation priorities.
Opportunities, limitations, assumptions & risks	There are currently a large number of externally-funded projects and sector support to MOECAF being developed and shortly to commence implementation. It is not however known whether donors would be willing to provide assistance via a multi-donor fund.
Initial needs for follow-up & further development	<ul style="list-style-type: none"> <li>• Consultation within MOECAF, with MFAR and donors to determine interest in fund;</li> <li>• Development of business case for fund;</li> <li>• Scoping and detailed design/feasibility assessment, including strategic priorities and focus;</li> <li>• Feasibility assessment and negotiation of alternative models for institutional setup, administrative structures, operational management modalities, planning and reporting procedures</li> </ul>

Independent trust fund	
General description	Independently-run fund held outside government, likely incorporating endowment, sinking, revolving/replenishable and possibly credit components.
Fund source(s)	Development donors, NGOs, private sector, charitable contributions, investment income

Independent trust fund	
Purpose & target	Make available funding to support PA management which is additional and complementary to MOECAP's spending and mandate, including funding activities carried out by civil society, the private sector and researchers in support of PA conservation, and enabling and promoting sustainable livelihood options for communities living in and around PAs. May also provide some level of support to core central and site-level costs for NWCD and PA authorities, and to the local authorities and line agencies that are mandated to manage and develop the broader PA landscape.
Opportunities, limitations, assumptions & risks	There is a clear need to broaden the scope, sources and targets of PA funding and to allow for a mechanism which would enable greater participation of non-government actors. Little is yet known about the legal, institutional and financial management arrangements under which such a fund would operate in Myanmar, although MOECAP have expressed preliminary interest in the idea. Detailed, complex and lengthy processes are also often involved in establishing PA trust funds. A substantial initial injection of capital would be required for an endowment fund to be viable. There is a risk of creating a parallel structure to government which duplicates and/or competes with the role of MOECAP.
Initial needs for follow-up & further development	<ul style="list-style-type: none"> <li>• Consultation within MOECAP, MFAR and non-government stakeholders to determine interest and support for fund;</li> <li>• Identification of potential sources of seed capital;</li> <li>• Detailed design and feasibility assessment of legal, institutional, investment and fund management options.</li> </ul>

PA integrated sustainable financing plans	
General description	Strategy and plan identifying PA financing status, needs, measures, actions and targets, at system and site-levels
Purpose & target	To outline and operationalise a strategy for achieving financial sustainability and covering the full costs of PA management. Aims to secure and match funding for conservation priorities, and harmonise budgets with those for conservation and development activities in the broader PA landscape. Would usually be developed as an integral component site-level PA management plans and the system-wide PA masterplan, and in close association with local development plans in the broader PA landscape. Also incorporates output / activity-based costing and budget calculation.
Opportunities, limitations, assumptions & risks	While there is a clear interest in sustainable financial planning within MOECAP, it is not currently required or included as part of the specified PA management plan format. There is no convention of addressing the broader conditions influencing PA financial sustainability, or of explicitly linking PA management actions and budgets to conservation incentives and development planning in the broader PA landscape.
Initial needs for follow-up & further development	<ul style="list-style-type: none"> <li>• Preparation of draft sustainable financing planning formats and guidelines;</li> <li>• Preparation of pilot sustainable financing plans in PAs with management plans in place or under development</li> </ul>

## Cross-cutting measures & additional requirements for PA financial sustainability

There are also certain general requirements for enhancing the financial sustainability of Myanmar's PA network. These relate to tackling the underlying systemic or structural factors that currently act as barriers to PA financial sustainability, and which, in turn, are also necessary for facilitating and sustaining the priority financing measures that have been suggested for further development.

Four sets of enabling conditions and cross-cutting areas of support are of particular importance:

- **Regulatory and legal frameworks:** current laws and regulations are weak as regards PA sustainable financing, and provide very little explicit support to the development of new funding sources, retention measures or planning instruments. Some of the priority

financing measures identified above require that specific laws, regulations or guidelines are set in place. In many cases, this could be accomplished by making minor revisions to the Protection of Wildlife and Conservation of Natural Areas Law and Rules. For example, expanding the list of admissible revenue and income sources, allowing for the possibility of establishing national and subnational extra-budgetary PA funds or funding windows, further elaborating the terms and conditions under which leases, concessions and joint ventures can be carried out and resourced, and introducing procedures for PA sustainable financing planning all relate to instruments which are already mentioned in these laws. Other financing measures may require a broader legal basis. The development of PES, for example, potentially touches on contract law and land law, and the ability to develop legally-binding contracts or agreements will also be required for biodiversity offsets, corporate sponsorship and advertising, leases, concessions and joint ventures. The legal conditions under which any long-term, dedicated PA fund can be established, capitalised and run will, obviously, need to be investigated carefully;

- Institutional and management arrangements: while many of the priority financing measures mentioned above are intended to be implemented under the auspices of MOECAP's existing structures and systems, several will require that new institutional arrangements are set in place. It is self-evident appropriate financial, administrative and management setups will have to be identified for all three of the PA fund options. For the case of an independent trust fund, a wholly new institutional mechanism may be required. Several of the priority revenue and income-generating measures specified above also demand new modalities and protocols for institutional collaboration. Formal agreements, memoranda of understanding or even contracts may be need to be developed between different units of government (for fiscal transfers), or between government, the private sector and/or local communities (for PES, biodiversity offsets, corporate sponsorship and advertising, leases, concessions and joint ventures);
- Capacity and technical aspects: many of the priority measures identified above are new to Myanmar, as is the concept of PA sustainable financing more generally. Building the capacity of MOECAP staff to plan, design, implement and monitor PA financing mechanisms is a key requirement for their success and long-term sustainability. It is also worth noting that several of the identified financing mechanisms have quite complex or specialist needs for technical information and analysis at the design and feasibility stage, including PES, conservation funds and sustainable financing plans; and
- Awareness, communications and consultation needs: considerable efforts will undoubtedly be required to convince decision-makers of the advantages of reforming PA financing systems, and to make the case to those who are expected to pay as to why new charge or fee systems are necessary and to their benefit. Perhaps most importantly, almost all of the priority PA financing measures require high-level political buy-in and approval if they are to be accepted and implemented in practice. This needs to come not just from within MOECAP, but also from other government agencies such as MFAR and MNPED and (in the case of fiscal transfers) line agencies representing the sectors that depend or impact on biodiversity and ecosystem services. The successful design,



negotiation and eventual implementation of most categories of PA financing mechanisms also typically demands the participation and support of a wide range of stakeholders at both national and site levels. This means that there will inevitably be a need to develop and foster much more inclusive and longer-term platforms for dialogue and collaboration between government, the private sector and civil society.

It is always important to remember that, while financial sustainability is a very necessary condition for PAs to be managed effectively and for biodiversity to be conserved, by itself it is unlikely to be sufficient. Three other key sets of factors which are critical to the success of any effort to strengthen financial sustainability in Myanmar relate to the broader conservation and development context within which financing measures are being implemented, and which they must in turn both be consistent with and lend support to.

These are the broader PA governance and planning context, and the economic conditions and incentives that drive and shape people's production, consumption and investment behaviour in relation to biodiversity and ecosystems. While these factors lie outside the direct ambit of sustainable financing, they exert a strong influence over its success. The converse also holds: sustainable financing is a key factor contributing towards effective PA planning and governance, and sustainable and equitable economic growth:

- PA financing measures should not, and cannot, be developed and implemented in a vacuum. Financial sustainability is only possible if there are strong and effective institutions for PA management, and a solid framework for planning and implementing biodiversity conservation within which financial measures are embedded. At a minimum, the development of new PA revenue-generation, fund management and financial planning measures would usually be expected to be accompanied by (and mainstreamed into) both a system-wide PA masterplan and site-level PA management plans. At the maximum, the introduction of sustainable financing approaches and mechanisms might form a component of much more major PA governance reforms;
- Better and more targeted access to funds is only one of the conditions for ensuring that PA costs are adequately compensated and conservation actions are sufficiently rewarded. Unless efforts are also made to address economic threats and barriers to biodiversity and to set in place the incentives and opportunities which will enable and encourage people to conserve biodiversity in the course of their economic activities, PA financing measures may have only limited impact. A wide range of economic incentive measures which work on production, consumption and investment activities at both livelihood and commercial levels (including those which dismantle or reverse perverse incentives) are also necessary. While these to some extent overlap with financing measures, they are far broader, and cover both cash and non-cash aspects, as well as equity and distributional considerations;
- Lastly, and of particular relevance to the current changes taking place in Myanmar's financial, economic, political and governance context, is the need to ensure that the design and implementation of PA financing measures are able to evolve or be modified, as necessary, in response to ongoing processes of decentralisation and deconcentration in

natural resources governance and public financial management. While it is as yet unclear whether PAs and biodiversity conservation will continue to be managed and funded only at the central/MOECAF level in the future, or whether these functions will be partially or wholly devolved to the State/Region level, any financial measures which are developed should have flexibility to adapt to these changes built into them.

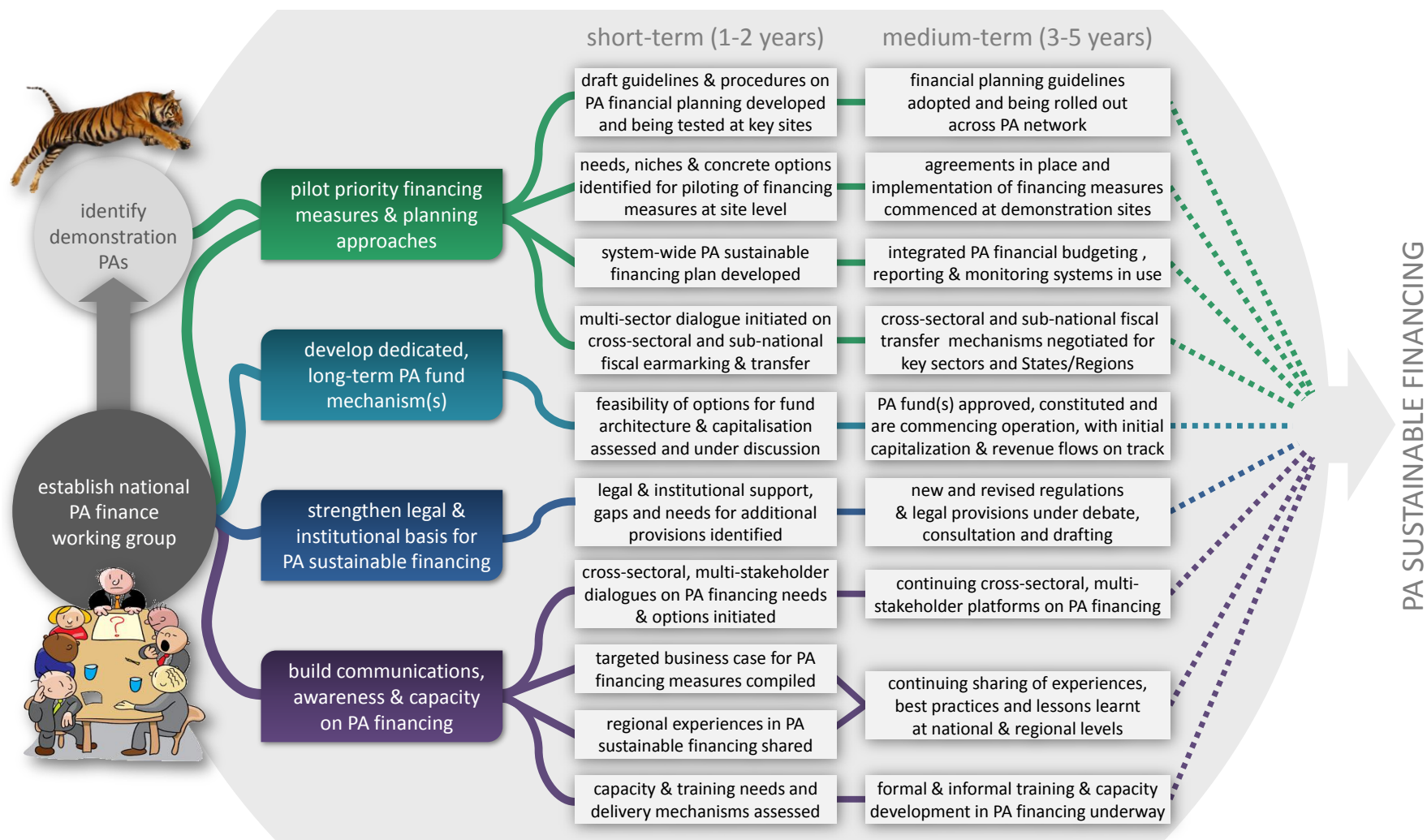
## Roadmap & key actions for moving forward

It is important to be realistic about the pace at which these changes can be made. New PA financing measures typically take a substantial amount of time, funds, effort, expertise to set up and operationalise. As described in the preceding section, in addition to technical planning and design requirements, it is usually necessary to engage in a lengthy process of dialogue and negotiation between different stakeholders. New policies, laws or high-level decisions are also often needed before funding mechanisms can be endorsed and implemented.

MOECAF has only a limited amount of time, staff capacity and other resources, and sustainable financing is only one of a number of current priorities for action in the environment sector (or even in relation to PAs). Changes are already underway in the laws, policies, financing and management systems which govern environmental conservation in Myanmar. A number of other related activities are also ongoing – and have been prioritised – which have a direct bearing on PA financing, including the development of national REDD+ and PES programmes and the establishment of the proposed Environment Management Fund. At the national level, public financial management procedures are in the process of being reformed, and various government responsibilities and functions are being decentralised or deconcentrated. Meanwhile, many new donor-funded projects have been approved for funding which have MOECAF as their main partner, including several dealing specifically with PAs. All of these activities are placing high demands on MOECAF staff and resources. For these reasons, a phased approach is proposed to taking PA sustainable financing forward (Figure 24).

Over the short-term, it is recommended that actions should focus on building the information, awareness and support base, and commencing the strategic planning, design and demonstration activities, that are required to initiate the identified priority financing mechanisms. This will lay the foundation for a medium-term set of actions intended to operationalise, institutionalise and scale-up new PA financing measures.

Figure 24: Roadmap of key actions for moving forward on sustainable PA financing



It is suggested that the development of PA sustainable financing measures is initiated at both site and national levels simultaneously. The aim is to set in place two strands of mutually reinforcing actions which will together serve to demonstrate, test and embed new approaches to PA financial planning, fund generation and administration. While site-level measures will generate concrete evidence and lessons learned on how these new measures can function in practice, national-level processes will provide essential support to setting in place the broader enabling conditions for rolling out sustainable financing approaches across the entire PA network, and institutionalising them in broader policy, planning and practice. While, overall, it is MOECAP which would have the responsibility for overseeing and coordinating the planning, development and implementation of these actions at both the system and site levels, it is important to ensure that broader support and backup is provided.

A national PA finance working group could serve as an effective mechanism for promoting the coordination, dialogue and buy-in that is necessary for taking PA financing forward. This would be formed under the lead of MOECAP, and would bring together the different sectors and stakeholders that depend and impact on PAs or have the potential to contribute towards funding them. It would likely include representatives from MFAR, MNPED and other line ministries, State/Regional governments, NGOs, the private sector and key donors. The working group would be tasked with sharing information and developing a common vision on PA financing, as well as providing inputs as required into the design of the detailed technical studies and planning processes that are required to determine the feasibility of specific PA financing options and to establish the broader enabling conditions for their implementation. Ultimately, the national working group would have the mandate of supporting, guiding and facilitating MOECAP's medium-term roll out of PA financing measures. Thus, while this body is envisaged to function primarily as a technical working group, it will be important to ensure that senior staff participate, and high-level representation is involved. This is necessary for the working group to function effectively to advocate, recommend and advise high-level policy-makers to make the decisions that are required to approve and set in place new PA financing mechanisms and associated policy, legal, institutional and administrative measures.

The national PA finance working group would also identify demonstration PAs in which selected priority financing measures could be piloted. The preparation of an integrated sustainable financing plan at each demonstration PA would serve to test and refine draft planning guidelines and procedures, and would also provide the background information and strategic planning baseline against which new financing measures could then be identified, planned and piloted for that site. Over the medium-term, it is anticipated that concrete measures for revenue and income generation would have commenced implementation in the demonstration PAs, and would be feeding evidence and lessons learned to national-level planners and decision-makers as well as to managing authorities at other PA sites.

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